

ENVIRONMENTAL ASSESSMENT



NATCHEZ TRACE PARKWAY:

***LINDSEY CREEK, THREET CREEK, COUNTY ROAD 85, & HIGHWAY 13 BRIDGE REPLACEMENT
WAYNE COUNTY, TENNESSEE & LAUDERDALE COUNTY, ALABAMA***



November 2005

Prepared by the
U.S. Department of Transportation
Federal Highway Administration
Eastern Federal Lands Highway Division

In cooperation with the
U.S. Department of the Interior
National Park Service
Natchez Trace Parkway

Prepared pursuant to the
Council on Environmental Quality
Regulations for Implementing the National
Environmental Policy Act (43 CFR 1500) and
42 USC 4332(2)(C)

ABSTRACT

This Environmental Assessment (EA) addresses the plans of the National Park Service (NPS), in cooperation with the Eastern Federal Lands Highway Division (EFLHD) of the Federal Highway Administration (FHWA), to perform needed replacement of bridge spans on the Natchez Trace Parkway over Lindsey Creek, Threet Creek and County Road 85 in Lauderdale County, Alabama and Tennessee Highway 13 in Wayne County, Tennessee. The preferred alternative proposes to replace the existing bridges on Natchez Trace Parkway over these creeks and roads and complete the associated bridge approach work while detouring traffic onto existing local roads. If the existing bridges are not replaced or rehabilitated, they will continue to rapidly deteriorate, resulting in further loss of load-bearing capacity.

The Park's purpose for this project is to maintain safe access to the historic Natchez Trace. The Park would like to accomplish this goal without diminishing the visitor experience, Park resources, or the interpretive value and the historic importance of the Natchez Trace Parkway.

This document determines which aspects of the proposed action have potential for social, economic, or environmental impact. It also identifies measures that may mitigate adverse environmental impacts. The review of the No Action Alternative is also presented. Public involvement and coordination/consultation with other Government agencies is summarized in this document.

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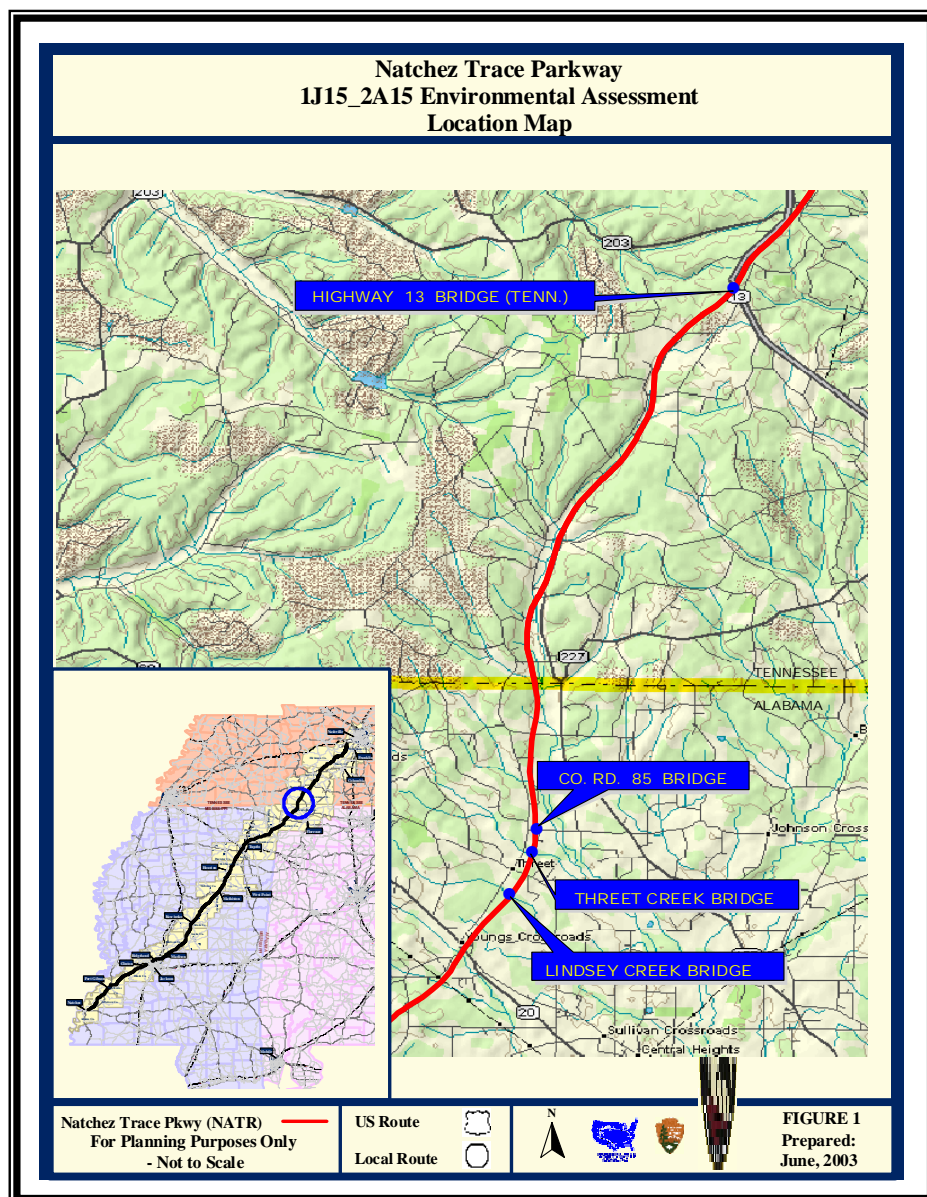
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I. PURPOSE AND NEED FOR THE ACTION

A. Location and Limits of Study Area

Built in the 1930's, the present 444-mile long Parkway follows the historic Natchez Trace through Tennessee, Alabama and Mississippi from Nashville, Tennessee to Natchez, Mississippi. The Parkway encompasses more than 51,000 acres and is visited by approximately 5,600,000 people annually. Approximately 121,000 vehicles pass through the project area of the Natchez Trace Parkway every year.

The project area consists of four separate locations along the portion of the Natchez Trace Parkway straddling Tennessee and Alabama. The first location, the bridge over Tennessee Highway 13, is at Milepost 350.90 on the Parkway in Wayne County, Tennessee. The three other locations, the bridges over Lindsey Creek, Threet Creek, and Lauderdale County Road 85, are situated at Mileposts 337.38, 338.38 and 338.78 respectively along the Parkway in Lauderdale County, Alabama.





View of Lindsey Creek
under the Natchez
Trace Parkway
looking downstream.



View of Threet Creek
under the Natchez
Trace Parkway.



View of Lauderdale
County Road 85 under
the Natchez Trace
Parkway looking east.



View of Tennessee Highway 13 under the Natchez Trace Parkway looking east.

B. Purpose of the Proposed Action

The purpose of this project is to maintain safe access to the historic Natchez Trace along the Natchez Trace Parkway. The Park would like to accomplish this goal without diminishing the visitor experience, Park resources, or the interpretive value and historic importance of the Natchez Trace Parkway.

The Natchez Trace Parkway currently operates under the direction of the approved 1987 General Management Plan/Environmental Assessment for Natchez Trace Parkway (GMP/EA). Management Objectives identified within the GMP direct the maintenance and upgrading of roadways and associated bridges in order to provide for a positive visitor experience and to ensure effective Parkway operations. These objectives coincide with the purpose and need for this project.

C. Need for the Proposed Action

1. Lindsey Creek

Efflorescence is a white crystalline or powdery, often fluffy/fuzzy deposit on the surface of masonry materials like concrete, brick, clay tile, etc. It's caused by water seeping through the wall/floor/object. The water dissolves salts inside the object while moving through it, and then evaporates leaving the salt on the surface.

Spalling is the appearance of chipping or flaking on the surface of the overlay, which causes high tensile stress of the overlay deposit.

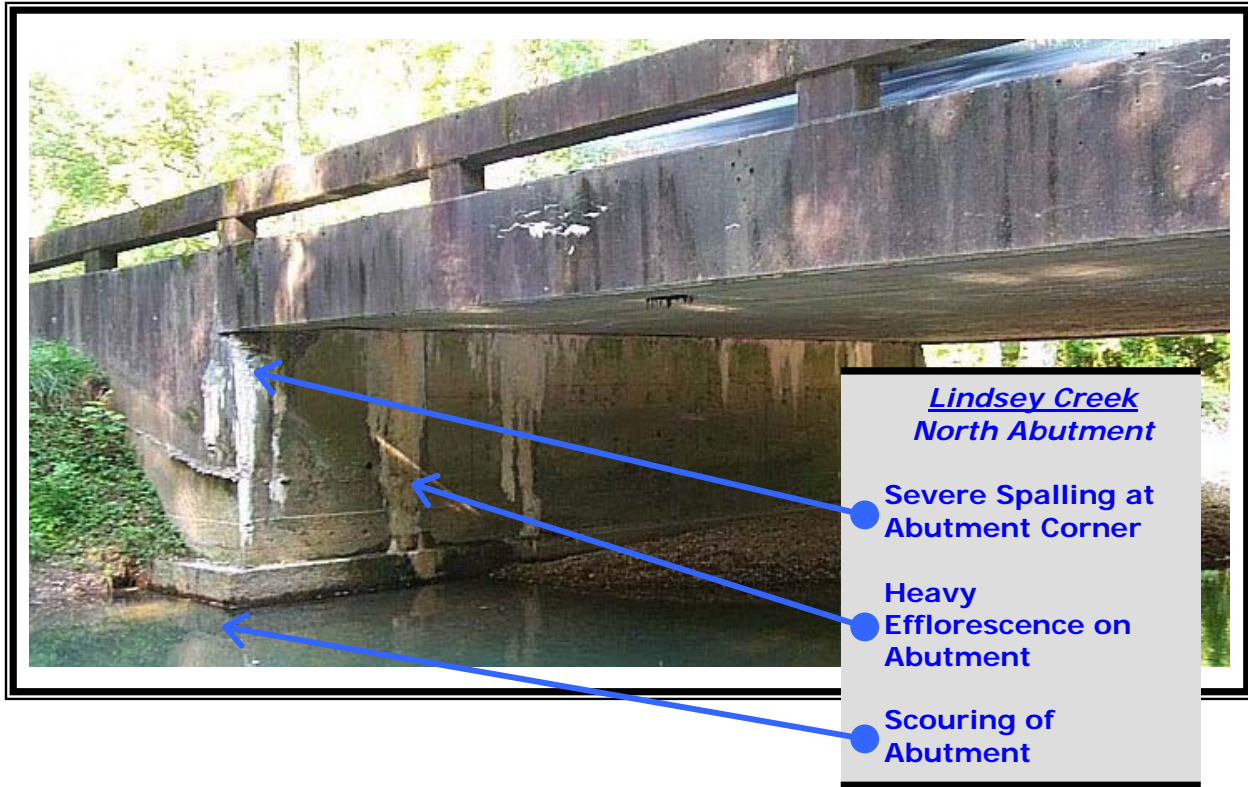
The present bridge over Lindsey Creek is a three-span 104-foot long two-lane bridge built in 1956. It has a continuous monolithic concrete slab superstructure supported by concrete abutments at each end and two piers built on pile foundations in the creek.

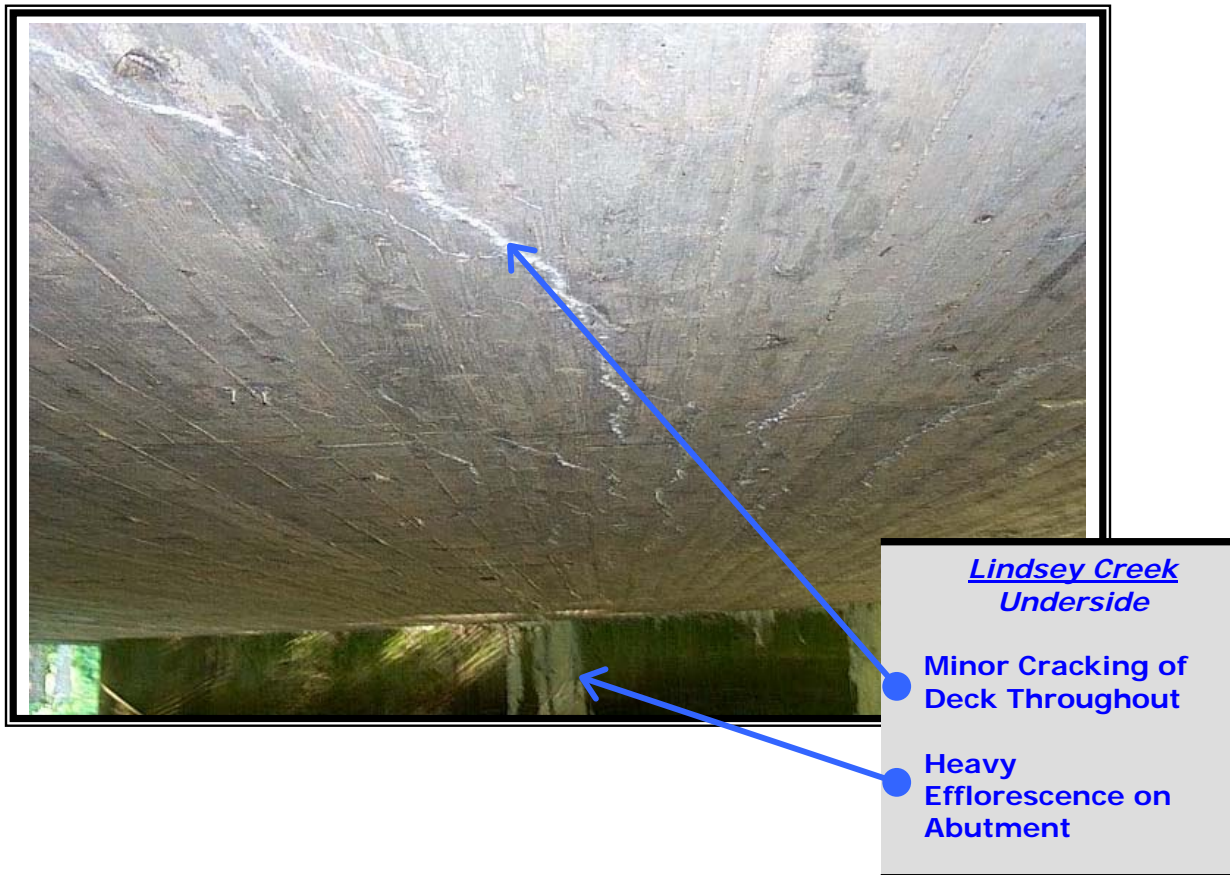
The Federal Highway Administration last inspected the bridge over Lindsey Creek in April of 2005. The bridge was determined to be in poor condition, and major rehabilitation or replacement recommended.

At present, the North Bank of Lindsey creek is located behind the North Abutment for the Natchez Trace Parkway Bridge. As a result, Lindsey Creek is scouring away at the foundation of the North abutment and the abutment itself.

Extensive serious cracks were found in the west side of the deck and minor cracking throughout the structure. Heavy efflorescence damage was found on the piers and abutments, with minor efflorescence throughout. Spalling was also found on the deck and the abutment corners. This deterioration was determined to be the result of alkali-silica reactivity between the cement and aggregate in the concrete.

The bridge load limit was reduced from 15 tons to 13 tons due to this deterioration. If not replaced, the bridge will continue to deteriorate rapidly, resulting in further loss of load-bearing capacity and eventual failure.





2. Threet Creek

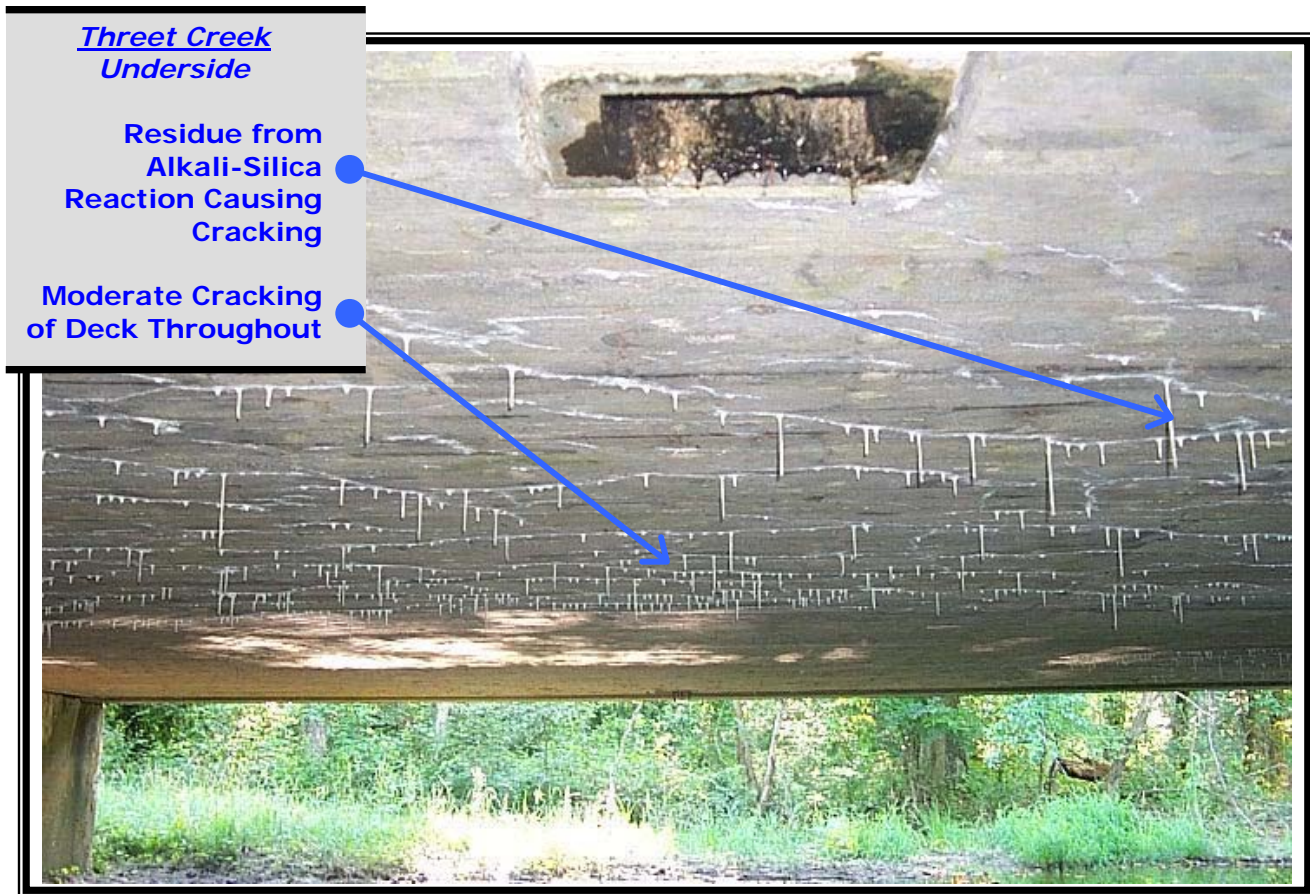
The existing bridge over Threet Creek is a three-span 104-foot long two-lane bridge built in 1956. It has a continuous monolithic concrete slab superstructure supported by concrete abutments at each end and two piers built on pile foundations in the creek.

The Federal Highway Administration last inspected the bridge over Threet Creek in April of 2005. The bridge was determined to be in serious condition, and major rehabilitation or replacement was recommended.

Widespread moderate cracks were found in the concrete slab underside and deck. Heavy efflorescence was found on both the deck and the abutments of the bridge. Very poor concrete was found in the South span of the bridge. Moderate to severe spalling was found throughout the structure. This deterioration was determined to be the result of alkali-silica reactivity between the cement and aggregate in the concrete.

The bridge load limit was reduced from 15 tons to 13 tons due to this deterioration. If not replaced, the bridge will continue to deteriorate rapidly, resulting in further loss of load-bearing capacity and eventual failure.



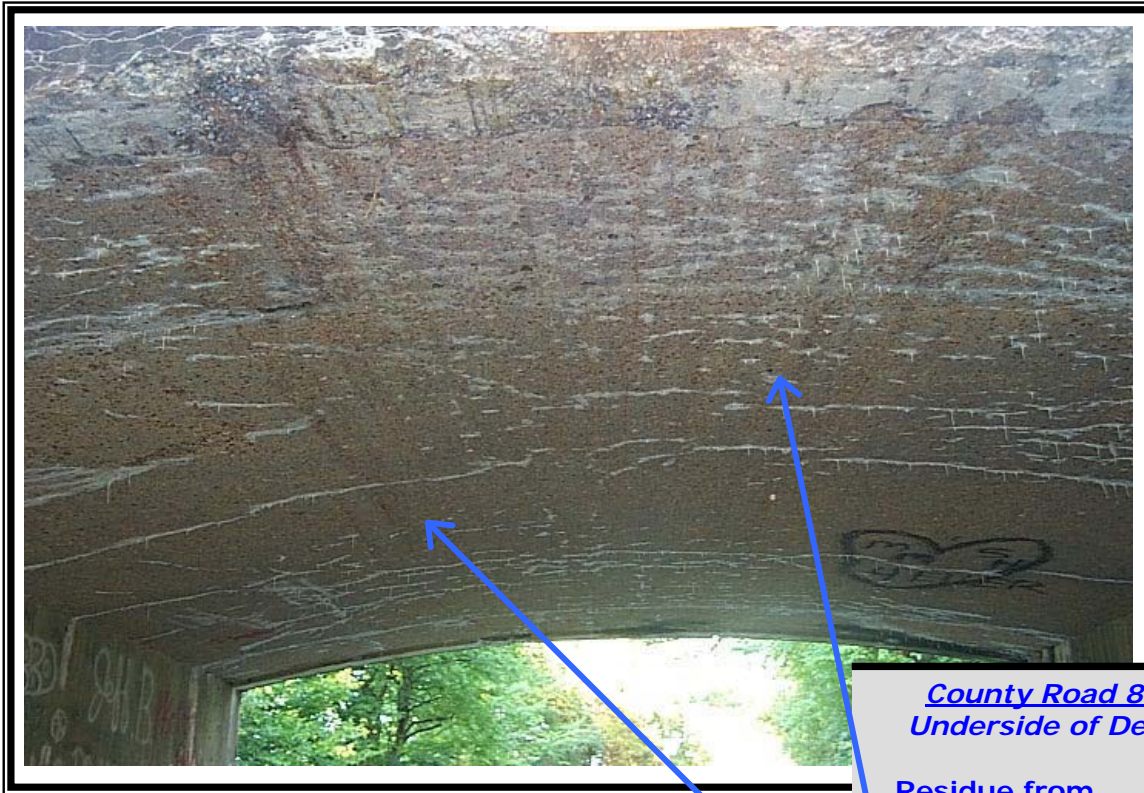


3. Lauderdale County Road 85

The existing bridge over Lauderdale County Road 85 is a single-span 28-foot long two-lane bridge built in 1954. It has continuous monolithic slab superstructures supported by concrete abutments on spread footings.

The Federal Highway Administration last inspected the bridge over Lauderdale County Road 85 in April of 2005. The bridge was determined to be in fair condition, and consideration of structure replacement was recommended.

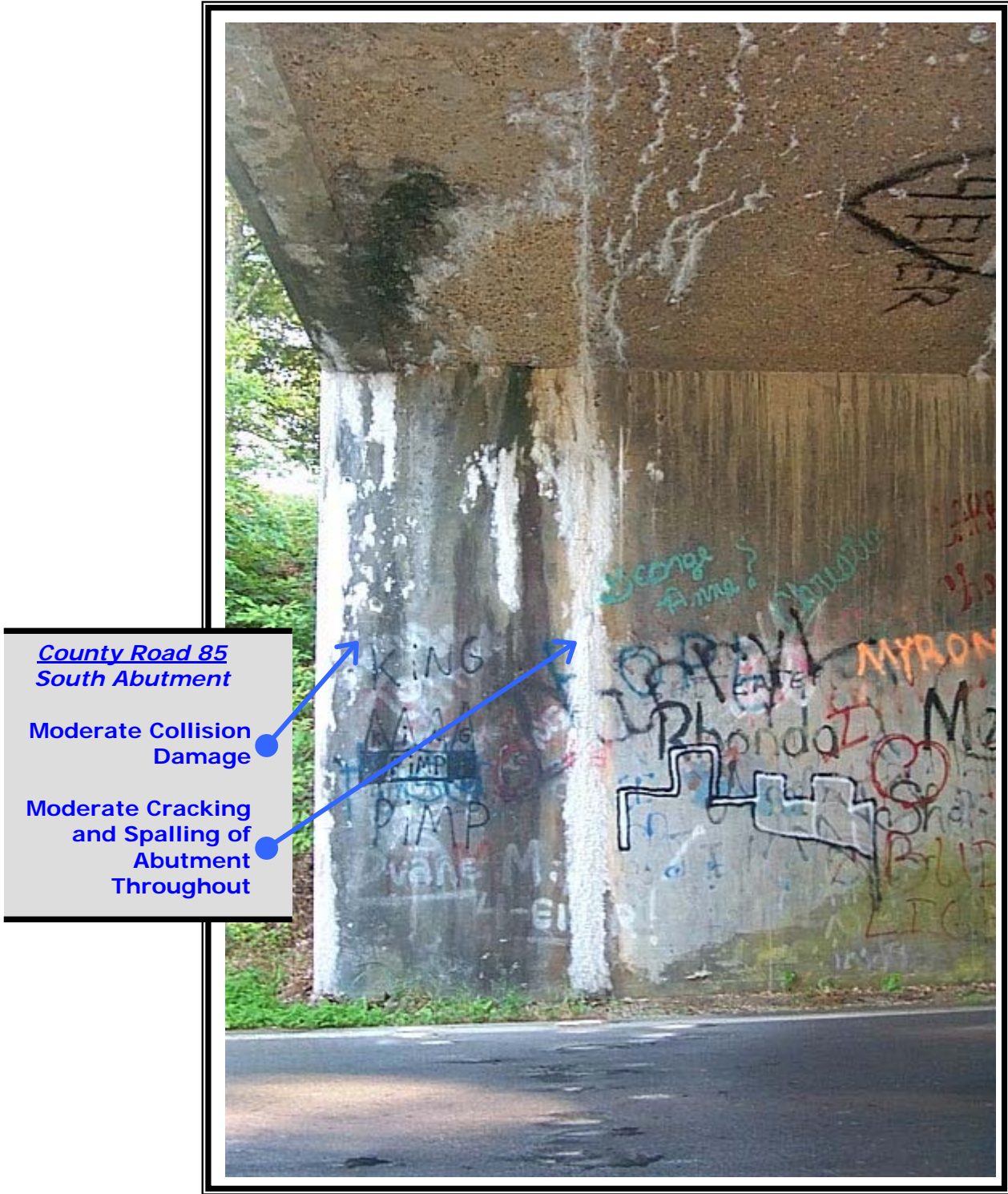
Widespread moderate cracks were found in the concrete slab underside. Moderate efflorescence was found on both the deck and the abutments of the bridge. This deterioration was determined to be the result of alkali-silica reactivity between the cement and aggregate in the concrete. Moderate collision damage was also found on both the abutments and the deck.



County Road 85
Underside of Deck

Residue from
Alkali-Silica
Reaction Causing
Cracking

Moderate Cracking
of Deck Throughout



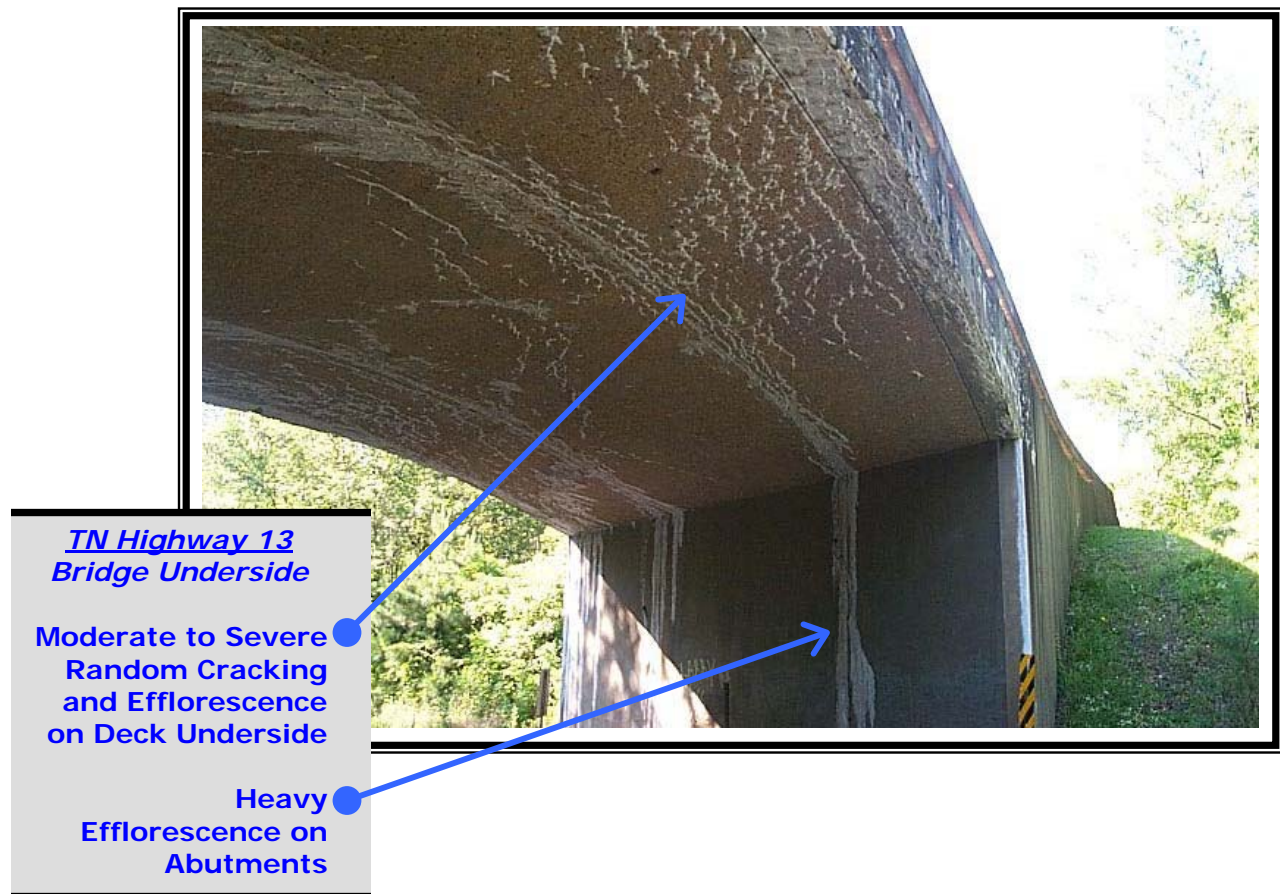
4. Tennessee Highway 13

The existing bridge over Tennessee Highway 13 is a single-span 54-foot long two-lane bridge built in 1954. It has continuous monolithic slab superstructures supported by concrete abutments on spread footings.

Bridge Engineers from the Federal Highway Administration last inspected the bridge over Tennessee Highway 13 in April of 2005. The bridge was determined to be poor condition and critically deficient, and replacement was recommended.

Widespread moderate to severe cracking was found throughout the structure. Moderate to severe efflorescence was found on both the deck and the abutments. Severe spalling of the deck finish coat was also found. This deterioration was determined to be the result of alkali-silica reactivity between the cement and aggregate in the concrete.

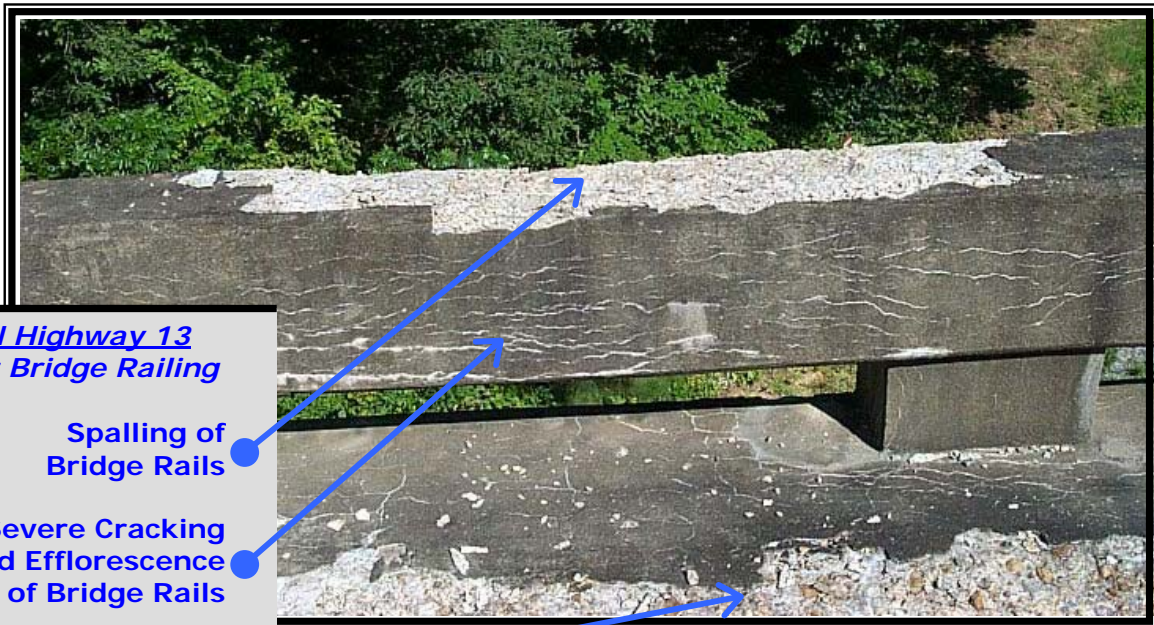
The bridge load limit was reduced from 15 tons to 13 tons due to this deterioration. If not replaced, the bridge will continue to deteriorate rapidly, resulting in further loss of load-bearing capacity and eventual failure.





TN Highway 13
West Face of Deck

Moderate to Severe
Random Cracking
and Efflorescence
of Deck



TN Highway 13
East Bridge Railing

Spalling of
Bridge Rails

Severe Cracking
and Efflorescence
of Bridge Rails

Spalling and
Delamination of
Curbs

D. ***Decisions to be Made***

The National Environmental Policy Act of 1969 (NEPA) requires consideration of the environmental effects of proposed Federal actions. This Environmental Assessment (EA) provides the required environmental and socioeconomic analysis for the proposed work. As part of the planning and analysis, this EA has been prepared to evaluate alternatives and options for accomplishing this work with the least impact to Park resources and Park visitors. The Eastern Federal Lands Highway Division of the Federal Highway Administration has prepared this EA in cooperation with the NPS. The NPS is the NEPA lead agency for this undertaking.

The National Park Service explored alternatives regarding how best to accommodate the replacement of the bridges without diminishing the visitor experience, the interpretive value and importance of the Natchez Trace Parkway, or other Park resources. After the alternatives have been fully evaluated and the public has had an opportunity to review and provide comment on the proposed action, the NPS will issue a decision on how they will proceed.

E. ***Scoping and Issues***

Issues and concerns related to reconstructing the bridges were identified by the Park, State and other Federal agencies through examination of similar NPS road projects. Issues specific to the replacement of the bridges relate to proposed bridge reconstruction methods and the construction of temporary detour roads that may potentially affect the area's natural resources, including wetlands, soils, and special status species (threatened, endangered, species of concern, and designated critical habitat). The affects of bridge replacement on the integrity of the Parkway, local traffic patterns, Parkway use, and Park operations are also of concern. Scoping meetings held in February 2003 and November 2003 identified natural resource and hydrologic concerns. In July 2003 traffic concerns regarding necessary traffic detours were identified. A field review was held in March 2004 to identify additional issues. A meeting in January 2005 with the Park, U.S. Fish and Wildlife Service (FWS), and FHWA identified FWS's concerns regarding federally listed threatened species present in the area.

F. ***Issues Evaluated in Detail***

Specific impact topics were developed to address potential natural, cultural, and social impacts that might result from the reconstruction of the bridges. These topics are derived from the issues identified above and address federal laws, regulations and orders, Natchez Trace Parkway management documents, and NPS knowledge of limited or easily impacted resources. They are used to focus the information presented and discussed in the Affected Environment and Environmental Consequences section. A brief rationale for the selection of each impact topic is given below:

1. **Biotic Communities**

The 1969 National Environmental Policy Act (NEPA) calls for an examination of impacts on the components of affected ecosystems. NPS policy requires the protection of the natural abundance and diversity of all the Parkway's naturally occurring communities. Impacts to resources such as soils, vegetation, and general wildlife are

included in this topic to be discussed further in the document.

2. Special Status Species

Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in furtherance of the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the U.S. Fish and Wildlife Service (FWS) to ensure that any actions authorized, funded and/or carried out by the agency does not jeopardize the continued existence of any listed status species or critical habitat. Protection and preservation of special status species at the Park are of critical importance and will be discussed as part of this analysis.

3. Water Quality

NPS Management Policies (1988) require protection of water quality consistent with the Clean Water Act. The location of abutments at the Lindsey Creek bridge would be altered, potentially affecting the characteristics of stream flow in Lindsey Creek. Additionally, water quality of Lindsey Creek and Threet Creek could be temporarily affected by increased sedimentation and turbidity during removal of the bridges and construction of the new bridges. Although soil erosion control measures would be in place to minimize potential impacts, water quality will be evaluated as an impact topic because of the occurrence of federally listed fish in Lindsey Creek.

4. Wetlands

Executive Order 11990: Protection of Wetlands requires an examination of impacts to wetlands. National Wetland Inventory (NWI) maps identified wetlands within the Lindsey Creek and Threet Creek project sites. For Clean Water Act, Section 404 permitting purposes, the field wetland delineation only identified jurisdictional wetlands within the Threet Creek project site. Field delineation of wetlands was performed during the summer of 2003. Vegetation, soils, and hydrology were examined for evidence of wetland characteristics using the Cowardin Classification system of Wetlands and Deepwater Habitats (USFWS 1979). This impact topic will be discussed further because of the presence of wetlands in the project area.

5. Floodplains

Federal and state laws to reduce the risk of property damage and loss of life due to flooding, as well as to preserve the natural benefits of floodplain areas to the environment regulate development within floodplains and floodways. Executive Order 11988: Floodplain Management requires all federal agencies to avoid construction within 100-year floodplains unless no other practical alternative exists.

6. Cultural Resources

As outlined in 36 CFR, Part 800, regulations issued by the Advisory Council on Historic Preservation implementing section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16

U.S.C. 470 et seq.), the potential impacts on cultural resources must be addressed. Under the "Criteria of Effect" (36 CFR Part 800.9(a)), Federal undertakings are considered to have an effect when they alter the character, integrity, or use of a cultural resource, or qualities that qualify a property for listing on the National Register of Historic Places.

The setting of the Natchez Trace Parkway is managed to ensure that Park visitors are afforded a continuous, serene and recreational travel experience, highlighted by the traditional rural landscapes along its route. Protection and preservation of cultural resources at the Park are of critical importance and will be discussed as part of this analysis. Perpetuation of these aesthetic characteristics of the Parkway's cultural landscape is an important design consideration of the current project. Therefore, in accordance with 36 CFR 800, an assessment is required of the effect that bridge replacements would have on the cultural resources in the project area.

The Natchez Trace Parkway was established on May 18, 1938, to commemorate the historical significance of the Old Natchez Trace, a primitive trail stretching some 500 miles through the wilderness from Natchez, Mississippi to Nashville, Tennessee. The Natchez Trace Parkway was designated as the corridor for the Natchez Trace National Scenic Trail in 1983 and as a National Scenic Byway-All American Road in 1995.

The National Park Service consulted with the Tennessee State Historic Preservation Office (SHPO) and the Alabama SHPO to ensure that the NPS operation, management, and administration provide for the site's cultural resources in accordance with the intent of National Park Service policies and with Section 106, 110, and 111 of the NHPA, as stated in the 1990 programmatic agreements among the National Park Service, the Advisory Council on Historic Preservation, and the National Council on Historic Preservation Officers. Under Stipulation D of the programmatic agreements, all undertakings that are not considered programmatic exclusions, or are not included in the plans reviewed under the former programmatic memoranda of agreement, would be reviewed in accordance with 36 CFR 800. In a letter dated April 25, 2001, The Tennessee Historical Commission stated that, "... the project as currently proposed will not adversely affect any property that is eligible for listing in the national register of historical places." In a letter dated May 20, 2002, the Alabama Historical Commission stated that, "... The Alabama Historical Commission has determined that the project activities will have no effect on any known cultural resources listed on or eligible for the National Register of Historic Places." Therefore this impact topic will not be discussed further.

7. Visitor Use, Parkway Operations, and Public Safety

Daily Park operations and local traffic patterns may be impacted by bridge closures or traffic delays during construction. Proposed detours would maintain traffic flow, however park and local traffic would be routed off of the Parkway. The bridges are critical links that allow for visitor use and enjoyment of the Parkway. Since the proposed action has the potential to impact visitor use, local traffic patterns and operations during the construction time, this topic will be discussed further.

8. Socioeconomic Environment

The proposed bridge replacements may minimally impact the local economy, and therefore this topic will be discussed further.

G. ***Permits***

The U.S. Army Corps of Engineers (COE) has regulated activities in the nation's waters since 1890. Until the 1960's, the primary purpose of the regulatory program was to protect navigation. Since then, as a result of laws and Court decisions, the program has been broadened to encompass the full public interest for both the protection and utilization of water resources. Regulatory authority and responsibilities of the COE includes Section 404 of the Clean Water Act (33 USC 1344). This includes regulation of the discharge of dredged or fill material into waters of the United States, including wetlands. In addition, Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) is regulated by the COE for activities in or affecting navigable waters. Since the actions proposed may impact waters that are considered waters of the United States, the proposed action is subject to COE review under the 404 regulatory program.

The U.S. Fish and Wildlife Service in Tennessee has advised the Federal Highway Administration that the project as proposed in Tennessee (Highway 13 bridge) has no wetlands present within the project vicinity and no federally listed or proposed species present within the project limits.

The U.S. Fish and Wildlife Service in Alabama advised the Federal Highway Administration that Lindsey and Threet Creeks are inhabited by the Federally threatened slackwater darter (*Etheostoma boschungii*). Lindsey Creek is listed as a Critical Habitat for the darter. Therefore, consultation would have to occur before the requirements of Section 7 of the Endangered Species Act can be fulfilled.

The Tennessee Valley Authority Act, as amended, prohibits the construction, operation, or maintenance of any structure affecting navigation, flood control, or public lands or reservations across, along, or in the Tennessee River or any of its tributaries until plans for such construction, operation, and maintenance have been submitted to and approved by the Tennessee Valley Authority (TVA). The permit for COE and TVA is a joint permit application.

The Storm Water Rule (40 CFR, Parts 122, 123, and 124) requires a National Pollution Discharge Elimination System (NPDES) permit on certain categories of storm water discharge. Actions associated with road construction (including bridges), such as clearing and grading activities that exceed one acre on an individual project, would require a NPDES permit from each state.

The State of Tennessee requires an Aquatic Resources Alteration Permit (ARAP) for projects that affect wetlands and navigable waters. This permit will not be required for this Project because Highway 13 (the only bridge in this project in Tennessee) does not involve a stream crossing or wetlands.

II. DESCRIPTION OF ALTERNATIVES

The following is a description of the three viable alternatives for the Lindsey Creek, Threet Creek, Lauderdale County Road 85 and Tennessee Highway 13 Bridges.

A. No Action Alternative

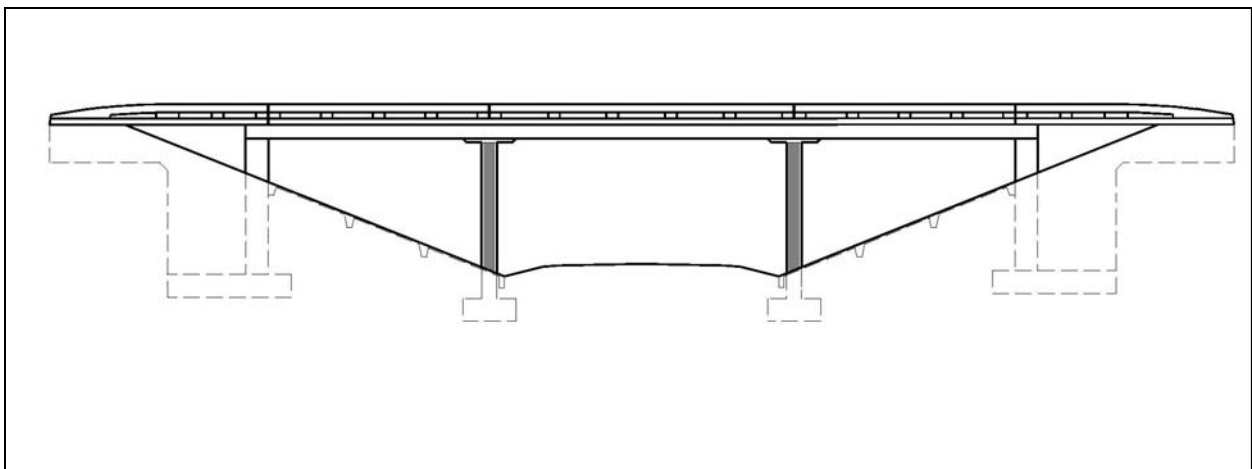
Under the No Action Alternative, no improvements to the existing bridges on Natchez Trace Parkway over Threet Creek, Lindsey Creek, County Road 85, and Highway 13 would occur. The existing bridge structures would remain in place and only routine maintenance operations would be performed.

B. Alternative A

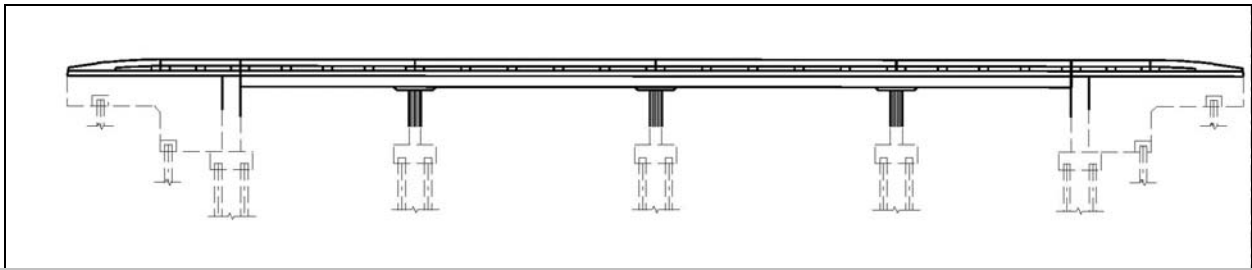
Alternative A would remove the existing bridges over Lindsey Creek, Threet Creek, Lauderdale County Road 85 and Tennessee Highway 13. New bridges would then be built in these locations. All four of the proposed bridges would be similar in appearance to the existing bridges. Each bridge would have an approximate total width of 34 feet.

The vertical profile of the bridges over Lindsey and Threet Creeks would be raised and the vertical clearance would be reduced due to the increase in bridge depth. The bridge over Lindsey Creek would be lengthened to four spans, for a total length of 144'. The bridge over Threet Creek would remain 104' long.

The vertical clearance of the bridges over Lauderdale County Road 85 and Tennessee Highway 13 would be reduced due to the increase in bridge depth. The profiles of these roads would then be lowered to compensate; 16'-5½" of vertical clearance is expected at County Road 85 and 16'-11½" is anticipated for Highway 13. The proposed bridges would be lengthened to three-span bridges measuring 104' over County Road 85 and 185' over Highway 13 to meet current design standards.



The proposed bridges over County Road 85 and Tennessee Highway 13 would look similar to the sketch above.



The proposed bridge over Lindsey Creek would look similar to the sketch above. The proposed bridge over Threet Creek would look similar to the sketch, however it would have two piers instead of the three depicted above.

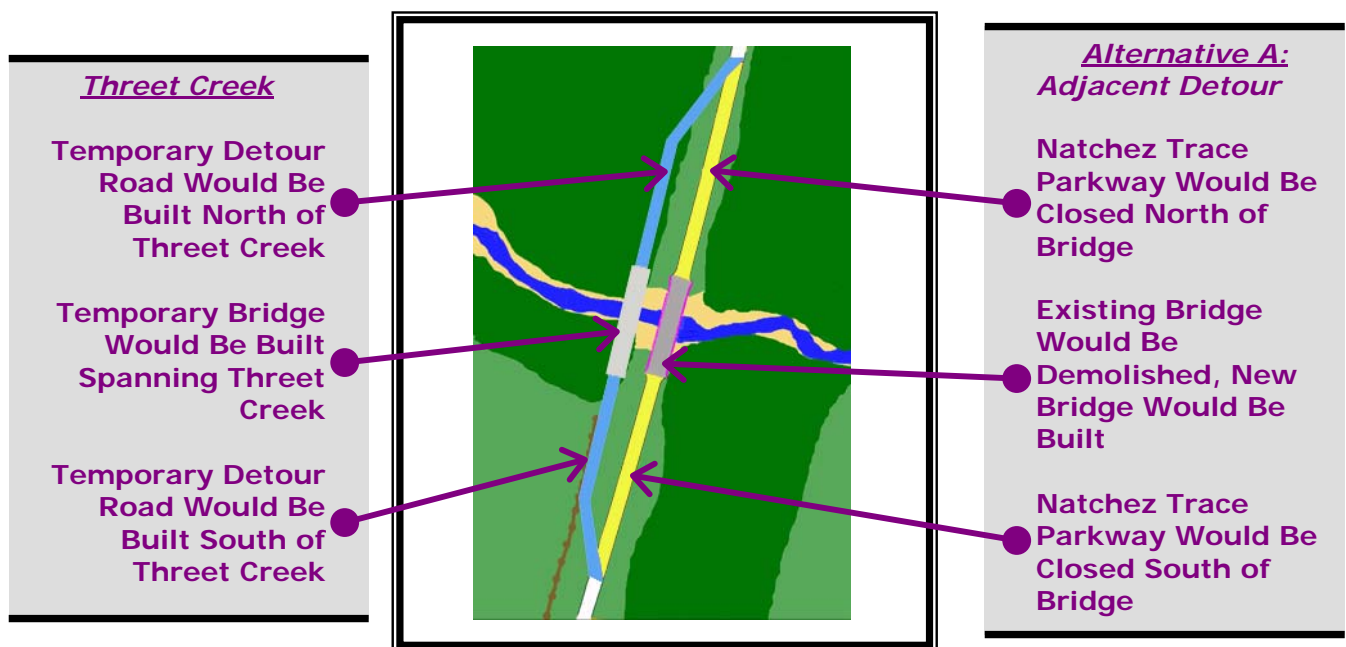
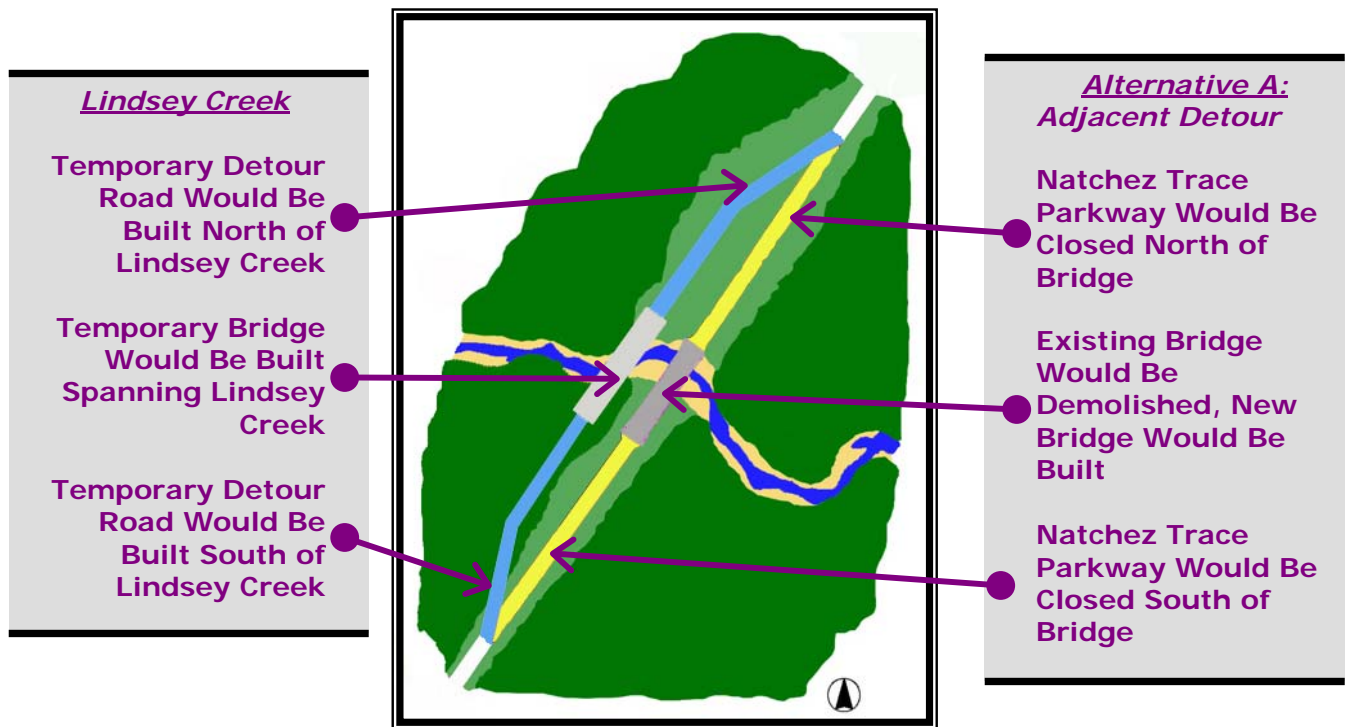
Demolition of the existing bridges and construction of new ones would require closing portions of the Natchez Trace Parkway. Information regarding the necessary detours is listed below.

Lindsey Creek Detour

A temporary paved road and a temporary bridge spanning Lindsey Creek would be built approximately 50 feet west of the existing Natchez Trace Parkway Bridge. The road would be approximately 920 feet long, with an approximate total width of 28 feet. The temporary bridge would be a 120-foot long single span structure. The posted speed limit would be 20 miles per hour (MPH). The Natchez Trace Parkway would be closed in the vicinity of the bridge over Lindsey Creek for approximately one year during which traffic would be diverted to the temporary detour. After completion of the permanent bridge, the temporary bypass route would be removed and the affected area restored to natural conditions prior to construction.

Threet Creek Detour

A temporary paved road and a temporary bridge spanning Threet Creek would be built approximately 50 feet west of the existing Natchez Trace Parkway Bridge. The road would be approximately 920 feet long, with an approximate total width of 28 feet. The temporary bridge would be a 120 feet long single span structure. The posted speed limit would be 20 MPH. The Natchez Trace Parkway would be closed in the vicinity of the bridge over Threet Creek for approximately one year during which traffic would be diverted to the temporary detour. After completion of the permanent bridge, the temporary bypass route would be removed and the affected area restored to natural conditions prior to construction.



Lauderdale County Road 85 Detour

A temporary paved road intersecting Lauderdale County Road 85 would be built to the east of the existing Natchez Trace Parkway Bridge. The road would be approximately 1280 feet long, with an approximate total width of 28 feet. The posted speed limit would be 20 MPH. Stop signs would be posted on the Parkway detours at the intersection with County Road 85. The Natchez Trace Parkway would be closed in the vicinity of the bridge for less than one year. Traffic along the Parkway would be diverted to the temporary detour road. After completion of the permanent bridge, the temporary detour route

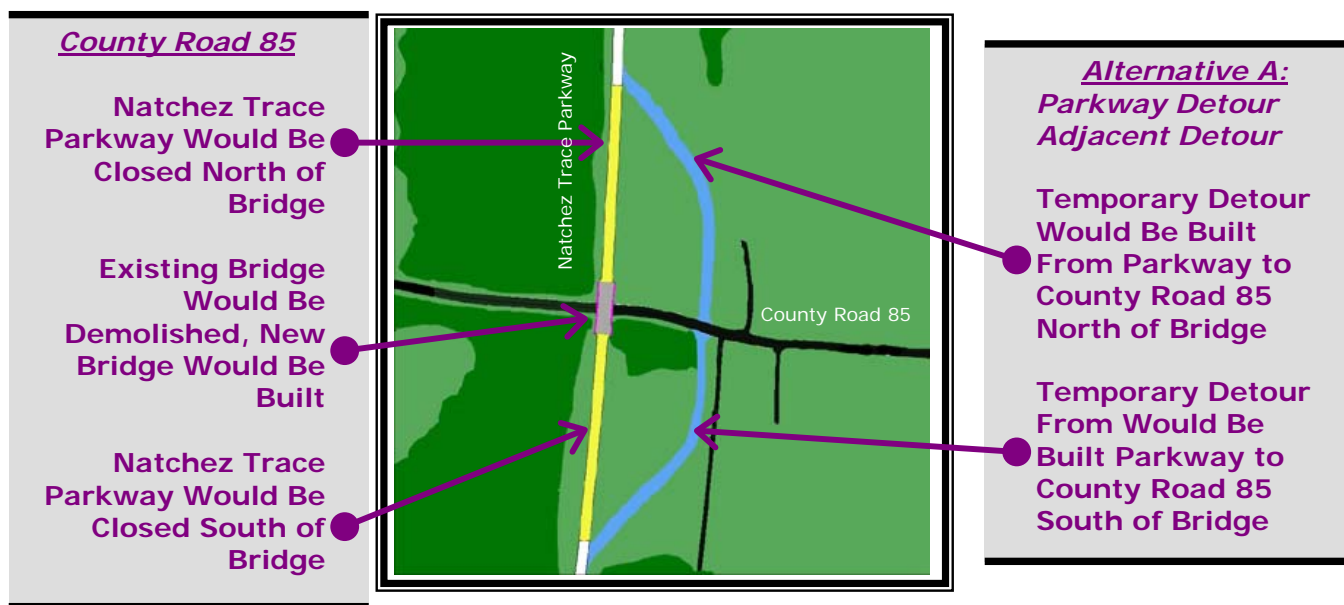
would be removed and the affected area restored to natural conditions prior to construction.

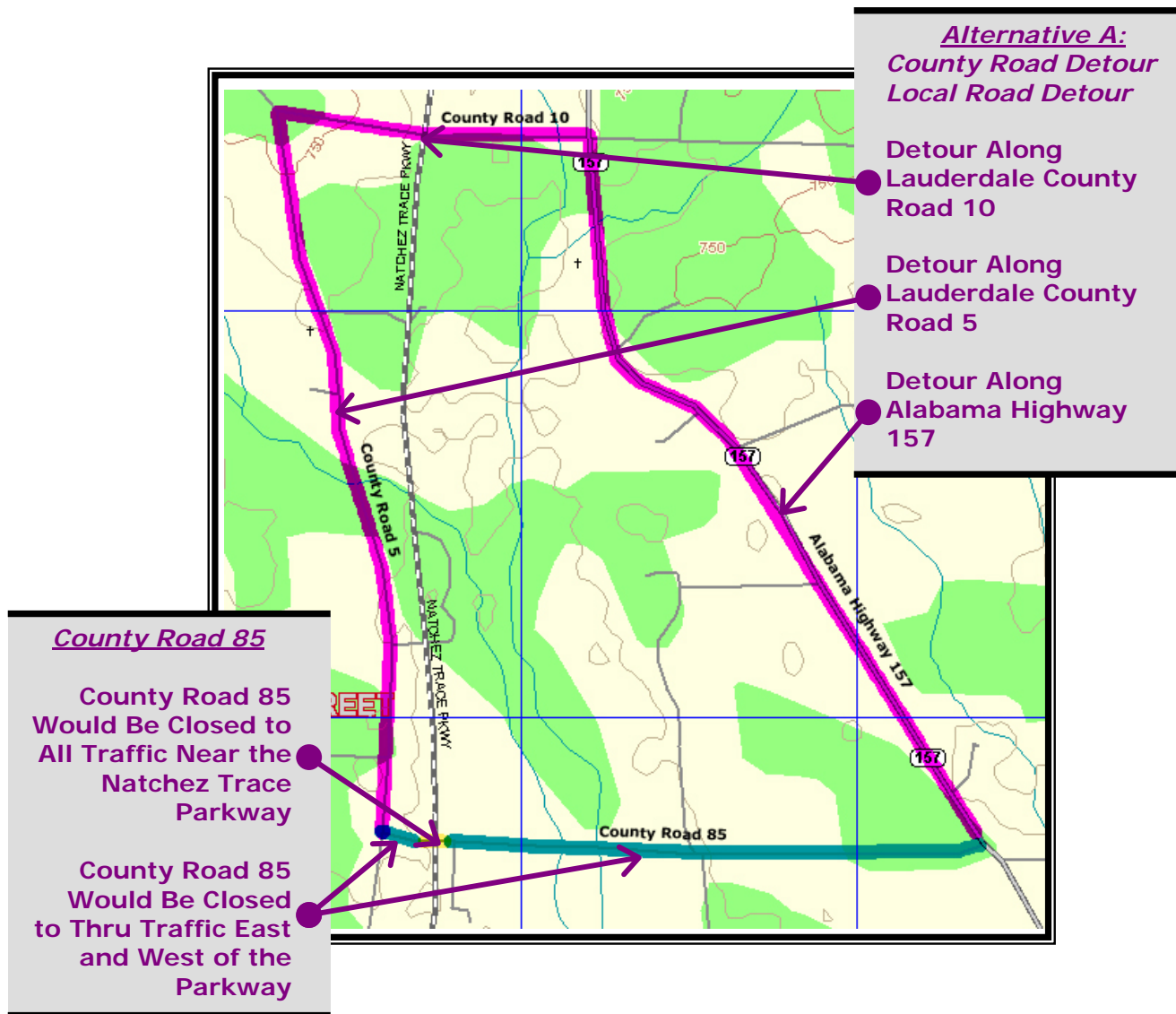
Demolition of the existing Parkway bridge and the lowering of the profile of County Road 85 would require it be temporarily closed to all traffic near the Parkway bridge and closed to thru traffic for approximately 1.6 miles from Alabama Highway 157 to Lauderdale County Road 5. This detour would be utilized for approximately one week.

During this period, all through traffic would be diverted onto local roads. The detour would follow Alabama Highway 157 for approximately 2.3 miles to the intersection with Lauderdale County Road 10. Alternative A would not improve Highway 157.

The detour would then follow Lauderdale County Road 10 across the Natchez Trace Parkway and to the intersection with County Road 5, a distance of approximately 0.9 miles. Alternative A would not improve County Road 10.

The detour then follows County Road 5 for approximately 2.1 miles to the intersection with County Road 85 and the end of the detour. County Road 5 would not be improved under Alternative A.





Tennessee Highway 13 Detour

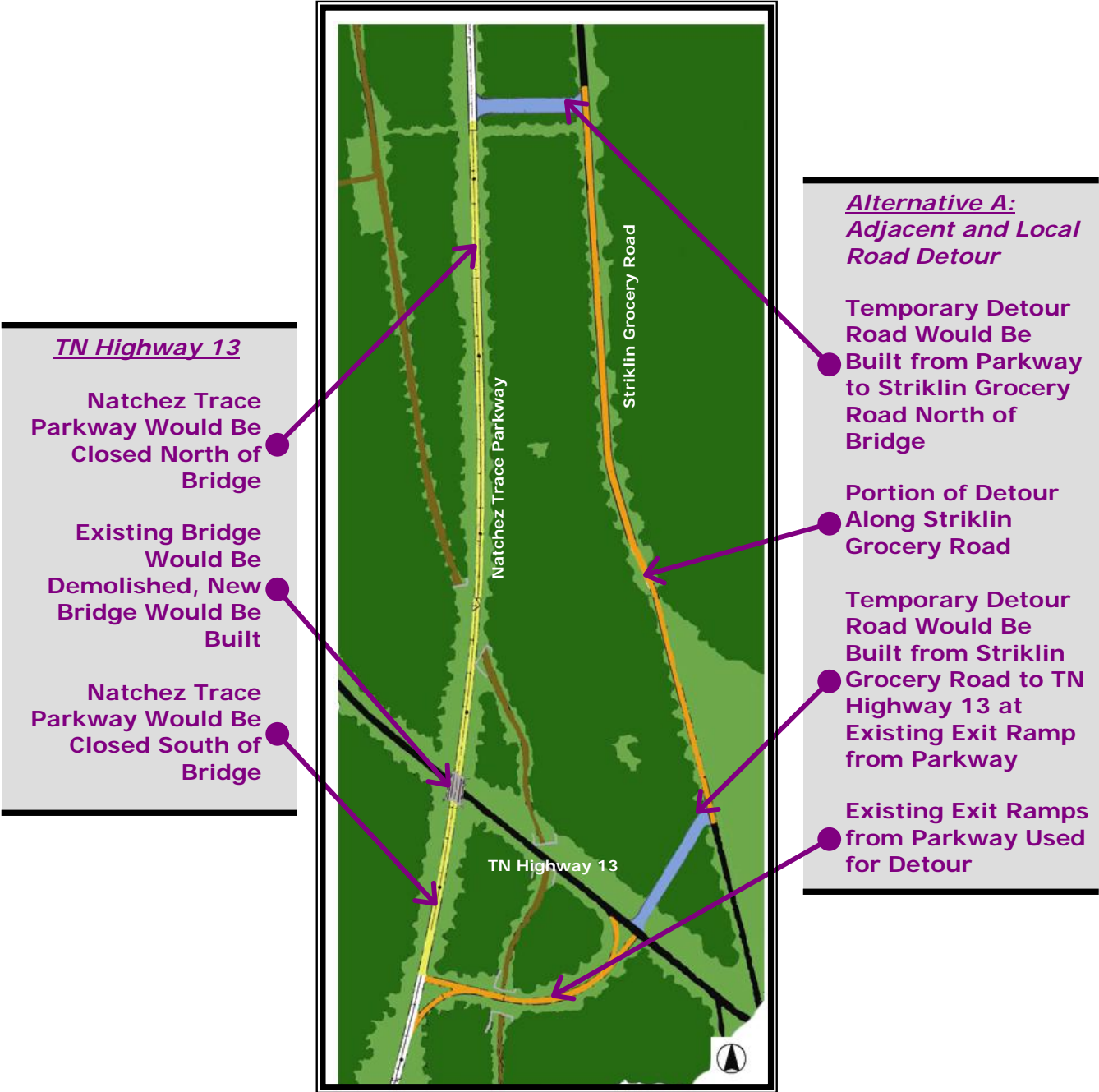
The proposed detour under Alternative A for the bridge over Tennessee Highway 13 would use the existing entrance and exit ramps from the Natchez Trace Parkway and a portion of the Stricklin Grocery Road. Two short temporary detour roads would be constructed as a part of this detour.

The existing entrance and exit ramps from the Natchez Trace Parkway to Tennessee Highway 13 would be used in their existing condition. Detour Road #1 would be constructed as a paved road with one 11-foot wide travel lane and one 3-foot wide shoulder on each side. This road would extend approximately 500 feet from the existing entrance and exit ramp intersection with Tennessee Highway 13 to Stricklin Grocery Road.

The portion of Stricklin Grocery Road used for this detour would have an asphalt overlay applied. The portion of the detour along Stricklin Grocery Road would be approximately 0.33 miles long.

Detour Road #2 would be constructed as a paved road with two 11-foot wide travel lanes and a 3-foot wide shoulder on each side. It would extend approximately 350 feet along the right side of an existing power line right-of-way from Striklin Grocery Road to the Natchez Trace Parkway.

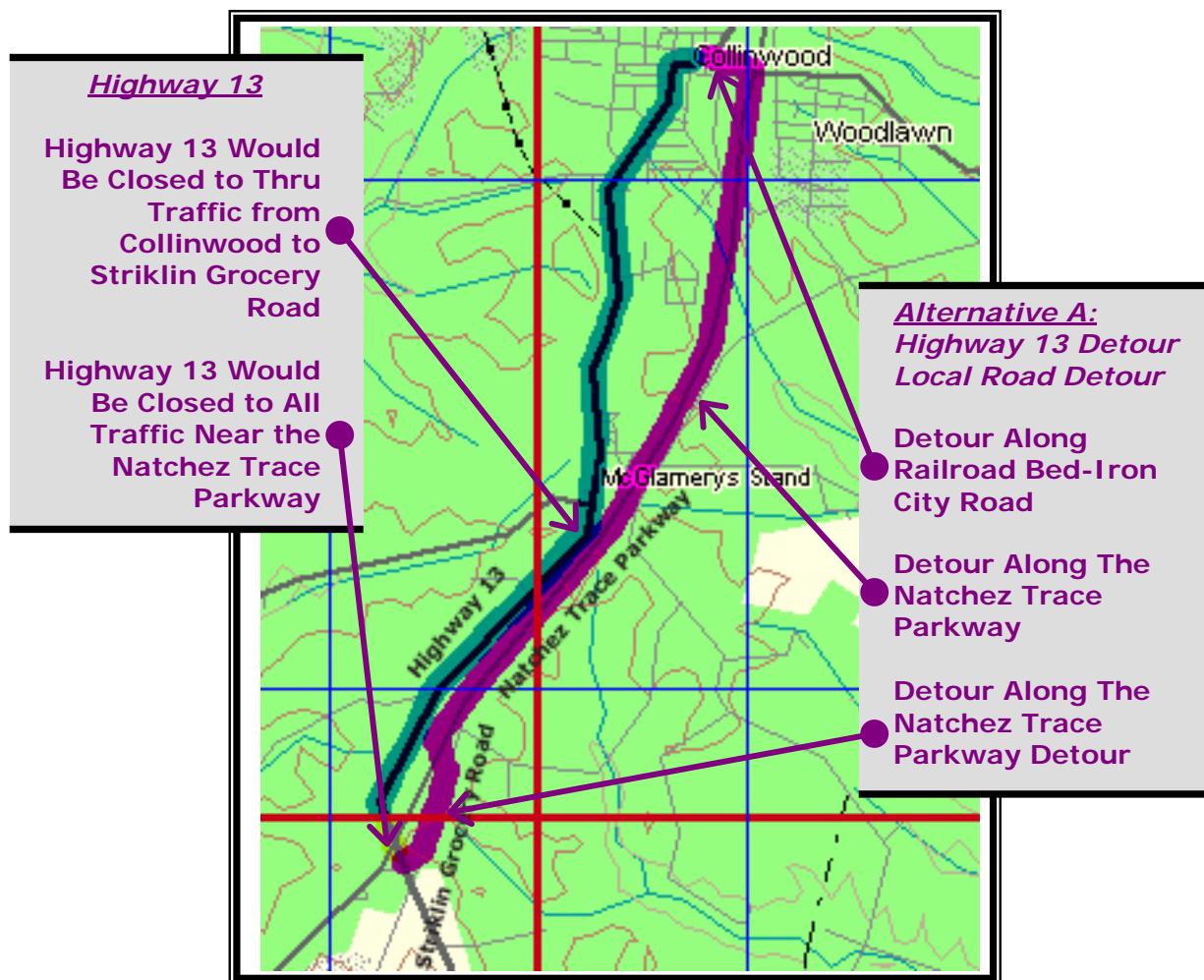
The Natchez Trace Parkway would be closed between the interchange with Highway 13 and Detour Road #2 for less than one year. Traffic along the Parkway would be diverted along Detour Road #1, Striklin Grocery Road, and Detour Road #2. After completion of the permanent bridge, the two temporary connector roads would be removed and the affected area restored to natural conditions prior to construction.



Construction activities at the Natchez Trace Parkway and Highway 13 interchange would require that Highway 13 be closed temporarily to demolish the existing bridge over Highway 13 and to lower the profile of the road.

During the time Highway 13 is closed, a local road detour would be established. This detour would follow the Natchez Trace Parkway Detour along Detour Road #1, Striklin Grocery Road, and Detour Road #2 to The Natchez Trace Parkway north of the existing bridge.

The detour would then follow the Parkway north for approximately 2.8 miles to the Collinwood interchange with Railroad Bed-Iron City Road. The Parkway would not be improved north of the existing bridge over Highway 13. The proposed detour then follows the Collinwood exit ramp for 0.13 miles to Railroad Bed-Iron City Road. The detour would then follow Railroad Bed-Iron City Road into Collinwood to the intersection with Highway 13. This detour would be utilized for approximately one week. Neither the interchange with the Natchez Trace Parkway nor Railroad Bed-Iron City Road would be improved under Alternative A.



C. ***Alternative B***

Alternative B would replace the bridges over Lindsey Creek, Threet Creek, Lauderdale County Road 85 and Tennessee Highway 13 in the same manner as Alternative A.

Alternative B would remove the existing bridges over Lindsey Creek, Threet Creek, Lauderdale County Road 85 and Tennessee Highway 13. New bridges would then be built in these locations. All four of the proposed bridges would be similar in appearance to the existing bridges. Each bridge would have an approximate total width of 34 feet.

The vertical profile of the bridges over Lindsey and Threet Creeks would be raised and the vertical clearance would be reduced due to the increase in bridge depth. The bridge over Lindsey Creek would be lengthened to four spans, for a total length of 144'. The bridge over Threet Creek would remain 104' long.

The vertical clearance of the bridges over Lauderdale County Road 85 and Tennessee Highway 13 would be reduced due to the increase in bridge depth. The profiles of these roads would then be lowered to compensate; 16'-5½" of vertical clearance is expected at County Road 85 and 16'-11½" is anticipated for Highway 13. The proposed bridges would be lengthened to three spans measuring 104' over County Road 85 and 185' over Highway 13 to meet current design standards.

Demolition of the existing bridges and construction of new ones would require closing portions of the Natchez Trace Parkway. Information regarding the necessary detours is listed below.

The primary difference between Alternative A and Alternative B is the method of detouring the traffic from the Parkway, Lauderdale County Road 85 and Tennessee Highway 13. The detour around the Lindsey Creek, Threet Creek and Lauderdale County Road 85 bridges would utilize existing local roads to form one continuous detour. The detour around Tennessee Highway 13 would utilize local roads to form a separate detour. Depending on the availability of funds, and the feasibility of constructing four bridges simultaneously, the Tennessee Highway 13 detour may or may not be in place at the same time as the Lindsey Creek, Threet Creek, and Lauderdale County Road 85 Detour. The Tennessee Highway 13 detour may be in place during a different time frame; and possibly after the conclusion of the Lindsey Creek, Threet Creek, and Lauderdale County Road 85 Detour.

Lindsey Creek, Threet Creek, and Lauderdale County Road 85 Detour

Alternative B would close the Natchez Trace Parkway between Alabama Highway 20 and Lauderdale County Road 10 and divert all traffic to local roads. The duration of time that traffic would be detoured is expected to be less than two years.

The detour route would begin at the present exit from the Natchez Trace Parkway to Alabama Highway 20. The detour would then follow Alabama 20 for approximately 0.27 miles to the intersection with Lauderdale County Road 5. Alternative B would not improve Alabama Highway 20.

The detour then follows Lauderdale County Road 5 for approximately 4.71 miles to the intersection with Lauderdale County Road 10. Lauderdale County Road 5 was recently repaved by Lauderdale County and has an average pavement width of 17 feet with no shoulders. Because some portions of the road are along steep embankments with no shoulder or guardrail, improvements would be constructed where required to ensure traveler safety along the detour.

The detour then follows Lauderdale County Road 10 for 0.38 miles to where it intersects the Natchez Trace Parkway. Alternative B would make no improvements to Lauderdale County Road 10. This proposed detour is approximately 6 miles long.

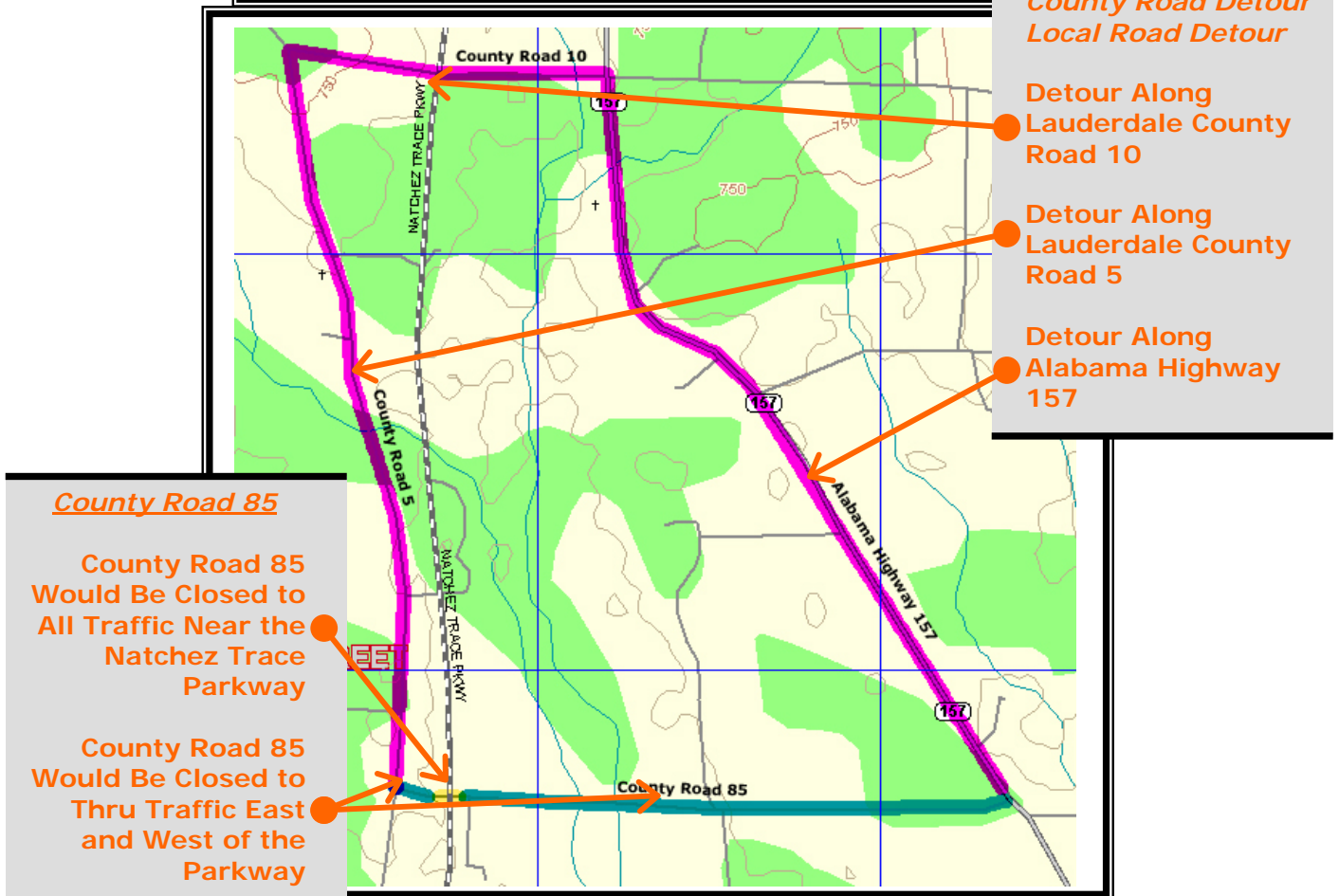
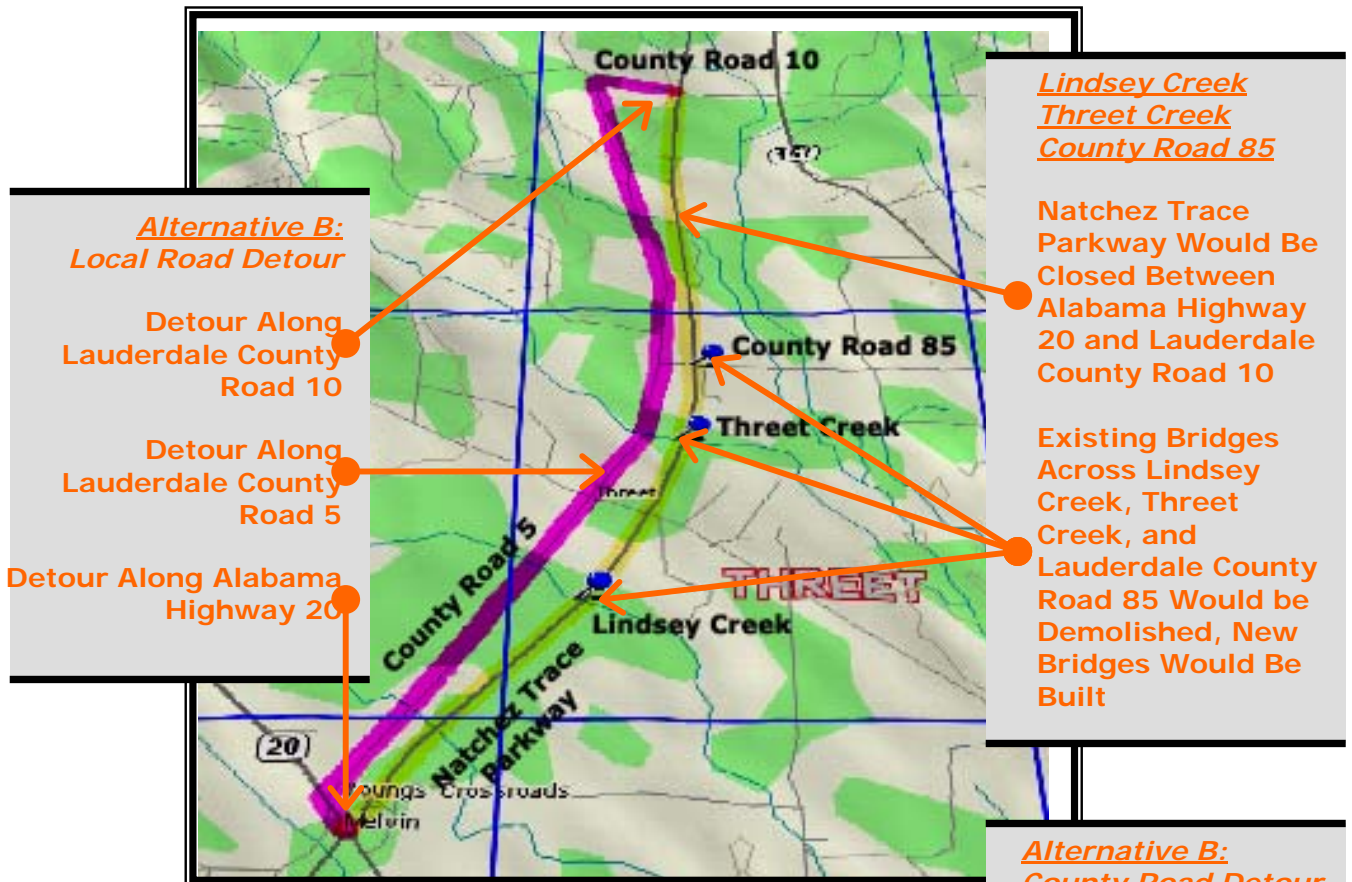
Demolition of the existing Parkway bridge and the lowering of the profile of County Road 85 would require it temporarily be closed to all traffic near the Parkway bridge and closed to thru traffic for approximately 1.6 miles from Alabama Highway 157 to Lauderdale County Road 5.

All through traffic would be diverted onto local roads. The detour would follow Alabama Highway 157 for approximately 2.3 miles to the intersection with Lauderdale County Road 10. Alternative B would not improve Highway 157.

The detour would then follow Lauderdale County Road 10 across the Natchez Trace Parkway and to the intersection with County Road 5, a distance of approximately 0.9 miles. Alternative B would not improve County Road 10.

The detour then follows County Road 5 for approximately 2.1 miles to the intersection with County Road 85 and the end of the detour.

The Lauderdale County Route 5 bridge crossing Threet Creek is currently signed for a weight limit of 14 tons, and the bridge crossing Lindsey Creek is currently signed for a weight limit of 16 tons. Load tests were done on both structures and showed that the bridges could safely handle recreational vehicles and trucks using the detours.



Tennessee Highway 13 Detour

Alternative B would close the Natchez Trace Parkway in the vicinity of the existing bridge over Tennessee Highway 13. An adjacent detour would be constructed, using the existing exit ramps from the Natchez Trace to Highway 13 and a temporary detour road back onto the Parkway on the other side of the bridge. This route would be a paved road with an approximate total width of 28 feet and approximately 1300 feet in length. The posted speed limit would be 20 MPH. Stop signs would be posted along the Parkway Detour at the intersection with Tennessee Highway 13. This detour would be in place for approximately one year. After completion of the permanent bridge, the temporary detour road would be removed and the affected area restored to natural conditions prior to construction.

Construction activities at the Natchez Trace Parkway and Highway 13 interchange would require that Highway 13 be closed temporarily to demolish the existing bridge over Highway 13 and to lower the profile of the road. Traffic would be maintained on Highway 13 through the project area on weekdays. It would be necessary to detour traffic for approximately two weekends.

During the time Highway 13 is closed, a local road detour would be established. This detour would follow the Natchez Trace Parkway Detour along the constructed detour road to The Natchez Trace Parkway north of the existing bridge.

The detour would then follow the Parkway north for approximately 3.1 miles to the Collinwood interchange with Railroad Bed-Iron City Road. The Parkway would not be improved north of the existing bridge over Highway 13. The proposed detour then follows the Collinwood exit ramp for 0.13 miles to Railroad Bed-Iron City Road. The detour would then follow Railroad Bed-Iron City Road into Collinwood to the intersection with Highway 13. Neither the interchange with the Natchez Trace Parkway nor Railroad Bed-Iron City Road would be improved under Alternative B.

TN Highway 13

Natchez Trace Parkway Would Be Closed North of Bridge

Existing Bridge Would Be Demolished, New Bridge Would Be Built

Natchez Trace Parkway Would Be Closed South of Bridge



Alternative B: Adjacent Detour

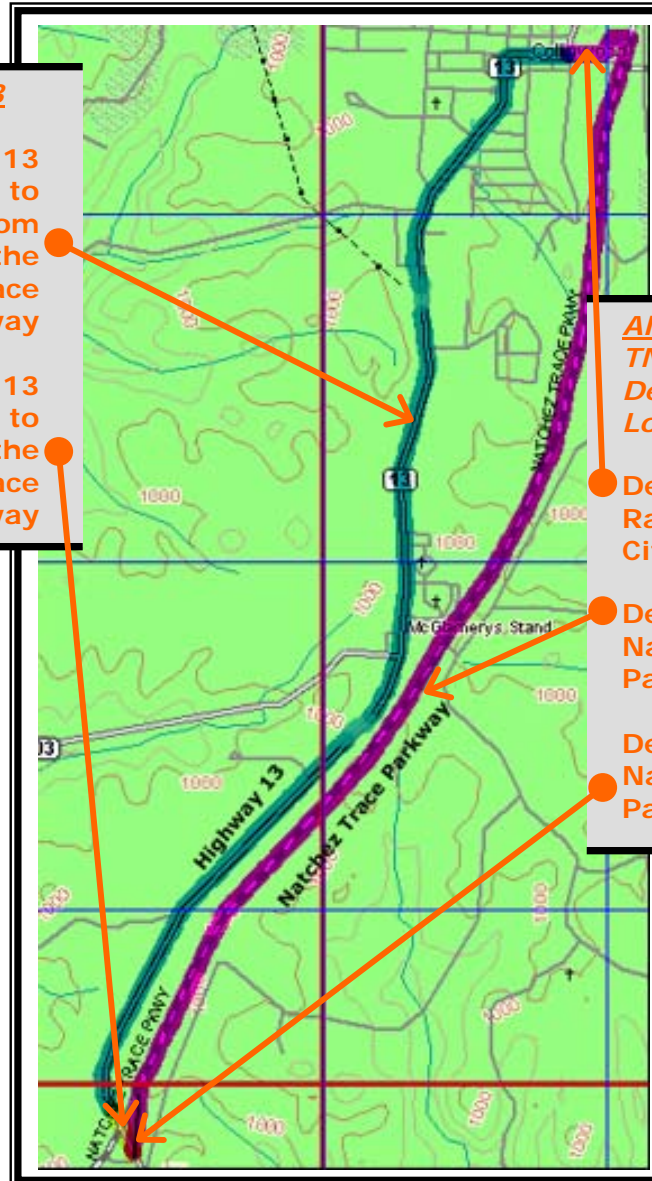
Temporary Detour From Parkway to TN Highway 13 North of Bridge

Existing Exit Ramp used for Detour from Parkway to TN Highway 13 South of Bridge

TN Highway 13

TN Highway 13 Would Be Closed to Thru Traffic from Collinwood to the Natchez Trace Parkway

TN Highway 13 Would Be Closed to All Traffic Near the Natchez Trace Parkway



Alternative B: TN Highway 13 Detour Local Road Detour

Detour Along Railroad Bed-Iron City Road

Detour Along The Natchez Trace Parkway

Detour Along The Natchez Trace Parkway Detour

D. ***Environmentally Preferred Alternative***

As defined by the CEQ: "The environmentally preferred alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources (CEQ 2005a)."

The environmentally preferred alternative is the alternative that best:

1. fulfills the responsibilities of each generation as trustee of the environment for succeeding generations.
2. ensures for all Americans, safe, healthful, productive, and esthetically and culturally pleasing surroundings.
3. attains the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. preserves important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, and environment that supports diversity and variety of individual choice.
5. achieves a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. enhances the quality of renewable resources and approach the maximum attainable recycling of depleteable resources.

Alternative B is the environmentally preferred alternative. The No Action alternative does not meet criteria 2, 3, or 4, because allowing the bridges to deteriorate further causes a safety risk to travelers on the Natchez Trace Parkway. Alternative B better meets criteria 1, 3, and 4 than Alternative A because there would be less clearing necessary, and also by using the local roads detours there would be less of a risk that placing fill beside Threet and Lindsey creek could adversely impact the federally listed slackwater darter. Alternative A and B better meet polices 5 and 6 because by replacing these deteriorating bridges, the Natchez Trace Parkway would continue to allow visitors to experience the historical path used for hundreds of years.

E. ***The Preferred Alternative***

The preferred alternative determined by the National Park Service for this project is Alternative B, which addresses the need to replace the bridges over Lindsey Creek, Threet Creek, Lauderdale County Road 85, and Tennessee Highway 13. If these concerns are not addressed, further bridge deterioration will occur. This deterioration would result in further decrease in the load carrying capacity of the bridges, heightened risk to visitor safety, and potential for bridge failure. Even though the possibility exists that construction activities might cause harm, this would be minimized by the use of best management practices and a specific mitigation plan. Alternative B would cause less of an adverse impact on vegetation and threatened and endangered species than Alternative A. The preferred alternative is the environmentally preferred alternative.

III. THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The following addresses the affected environment and the environmental consequences for the No Action Alternative, Alternative A, and Alternative B. A definition of impacts is located below.

1. Temporary Impacts: Impacts anticipated during construction only. Upon completion of the construction activities, conditions are likely to return to those that existed prior to construction.
2. Short-term impacts: Impacts that may extend past the construction period, but are not anticipated lasting more than a couple years.
3. Long-term impacts: Impacts that may extend well past the construction period, and are anticipated to last more than a couple of years.
4. Negligible: Little or no impacts (not measurable).
5. Minor: Changes or disruptions may occur, but do not result in a substantial resource impact.
6. Moderate: Easily defined and measurable, but does not result in a substantial resource impact.
7. Major: Easily defined and measurable. Results in a substantial resource impact.
8. Impairment: An impact that would harm the integrity of Park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

The general study area lies in a rural section of the middle Tennessee River valley of middle Tennessee and northern Alabama. A 13-mile long segment of the Natchez Trace Parkway winds through the general study area as the Parkway travels from Natchez, Mississippi to Nashville, Tennessee. This study focuses on four distinct locations along the Natchez Trace Parkway; approximately Milepost 350.9 over Tennessee Highway 13, Milepost 338.78 over Country Road 85, Milepost 338.38 over Threet Creek, and Milepost 337.38 over Lindsey Creek. The Natchez Trace Parkway is a linear park that extends approximately 444 miles and occupies 51,750.15 acres, which includes 51,680.64 acres of Federal land and 69.57 acres of non-federal land. An estimated 5,576,412 people visited the Parkway in 2003, and an estimated 10,147 vehicles pass through the study area monthly along the Natchez Trace Parkway.

A. Natural Resources

1. Affected Environment

a. Vegetation

A conspicuous type of vegetation along the Natchez Trace Parkway are the grasses and wildflowers of the Parkway shoulders. These grasses include Kentucky bluegrass (*Poa*

pratensis), red clover (*Trifolium pratense*), Kentucky 31 fescue, white clover, and common Bermuda grass. Roadside wildflowers such as lyre-leaved sage (*Salvia lyrata*), spring beauty (*Claytonia virginica*), and Crimson clover (*Trifolium incarnatum*) can be found along the Parkway. Forested areas along the Parkway are dominated by species such as sweet gum, hickory, pine, and oak.

The southern end of the general survey area around the Natchez Trace Parkway crossing of Lindsey Creek is home to a Mesic Alluvial Hardwood Forest community. These moderately wet forests are dominated by American beech (*Fagus grandifolia*), water oak (*Quercus nigra*), red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), winged elm (*Ulmus alata*), slippery elm (*Ulmus rubra*), tulip tree (*Liriodendron tulipifera*), white oak (*Quercus alba*), mockernut hickory (*Carya tomentosa*), shagbark hickory (*Carya ovata*), and sugarberry (*Celtis laevigata*). Blackgum (*Nyssa sylvatica*), ironwood (*Carpinus caroliniana*), sugar maple (*Acer saccharum*), flowering dogwood (*Cornus florida*), common spicebush (*Lindera benzoin*), pawpaw (*Asimina triloba*), hazelnut (*Corylus americana*), Chinese privet (*Ligustrum sinense*), and Guelder rose (*Viburnum opulus*) are prominent members of the forest understory. Woody vines such as muscadine (*Vitis rotundifolia*), poison ivy (*Toxicodendron radicans*), Virginia creeper (*Parthenocissus quinquefolia*), and Japanese honeysuckle (*Lonicera japonica*) form much of the forest groundcover. Herbs and flowering plants such as false nettle (*Boehmeria cylindrica*), orange jewelweed (*Impatiens capensis*), hooked buttercup (*Ranunculus recurvatus*), jumpseed (*Polygonum virginianum*), southern lady fern (*Athyrium asplenoides*), Christmas fern (*Polystichum acrostichoides*), and common grapefern (*Botrychium dissectum*) thrive throughout the Lindsey Creek area in concentrations ranging from sparse to dense.

Approximately half a mile to the northeast, where the Natchez Trace Parkway crosses Threet Creek, two distinct forest communities exist. A Mesic Alluvial Hardwood Forest quite similar to the one found on the banks of Lindsey Creek fills the moist floodplains on both sides of Threet Creek.

The margins of the Threet Creek channel are home to a Wet Alluvial Hardwood Forest. Here, the periodic flooding of Threet Creek has resulted in an open forest canopy and thus a great diversity of plant life. Typical trees include swamp tupelo (*Nyssa biflora*), red maple, tulip tree (*Liriodendron tulipifera*), slippery elm, and river birch (*Betula nigra*). The understory is home to ironwood, sugar maple, common spicebush, ash (*Fraxinus* sp.), and elderberry (*Sambucus canadensis*). Herb and flowering plant concentrations range from very dense in the open-canopy clearings to moderate in shaded regions. Orange jewelweed, false nettle, ditch stonecrop (*Penthorum sedoides*), arrowleaf tearthumb (*Polygonum sagittatum*), cut grass (*Oryza* sp.), yerba-de-tajo (*Eclipta prostrata*), beggar ticks (*Bidens* sp.), dwarf St. John's-wort (*Hypericum mutilum*),

arrowhead (*Sagittaria falcata*), cardinal flower (*Lobelia cardinalis*), and Nepal grass (*Microstegium vimineum*) predominate throughout.

As the Natchez Trace Parkway travels toward Nashville, the climate and soils grow drier. Where the Parkway crosses Lauderdale County Road 85, approximately a half of a mile north of Threet Creek, a Dry-Mesic Oak-Hickory forest community thrives. These forests on both sides of the Parkway are dominated by a combination of dry-site species that include white oak, southern red oak (*Quercus falcata*), black oak (*Quercus velutina*), and mockernut hickory, along with mesic species that include water oak, red maple, American beech, sweetgum, and winged elm. Many of the same species as along Lindsey and Threet Creeks thrive in the understory, with Virginia red cedar (*Juniperus virginiana*), sassafras (*Sassafras albidum*), sparkleberry (*Vaccinium arboreum*), black highland blueberry (*Vaccinium fuscatum*) and Chinese privet (*Ligustrum sinense*) joining the blackgums, flowering dogwoods, and sugar maples. Virginia creeper and trumpet vine (*Campsis radicans*) entwine with poison ivy and muscadine in the groundcover. Herbs and flowering plants are very sparse on the forest floor, but common grapefern, rattlesnake fern (*Botrychium virginianum*), and ebony spleenwort (*Asplenium platyneuron*) can still be found.

By the time the Natchez Trace Parkway crosses Highway 13, 11.5 miles to the north in Tennessee, the water loving mesic trees and plants have given way to entirely Dry Oak-Hickory forests. White oak, southern red oak, post oak (*Quercus stellata*), blackjack oak (*Quercus marilandica*), black oak, pignut hickory (*C. glabra*) and shortleaf pine (*Pinus echinata*) dominate the extensive forested areas on both sides of the Parkway. Blackgums, flowering dogwoods, sassafras, and sparkleberries similar to those in Alabama thrive in the forest understory, joined by sourwood (*Oxydendrum arboreum*), and storax (*Styrax grandifolia*). Poison ivy and muscadine are common components of the groundcover. Goat's rue (*Tephrosia virginiana*), tick-trefoil (*Desmodium sp.*) and crane fly orchid (*Tipularia discolor*) form the majority of the sparse herbs and flowering plants on the forest floor.

b. Threatened and Endangered Species

The U.S. Fish and Wildlife Service, the Alabama Natural Heritage Program, and the Tennessee Natural Heritage Program indicate that Lauderdale County in Alabama and Wayne County in Tennessee are habitat for fourteen animals and eleven plants designated state- or federally- threatened or endangered.

Of these species, the Federally threatened slackwater darter (*Etheostoma boschungii*) is known to inhabit the project area. The designated critical habitat for the darter is Lauderdale County, Alabama, and Wayne County, Tennessee, including all permanent and intermittent streams with flowing water from December to June in Cypress Creek and its tributaries upstream

from the junction of Burcham Creek. Lindsey Creek joins Cypress Creek upstream from Burcham Creek. While Threet Creek is not listed as habitat, it is a tributary stream of Cypress Creek, which is designated as darter habitat. Cypress Creek runs parallel to the Natchez Trace Parkway from approximately Milepost 337 to 348. The Nature Conservancy (TNC) considers this species extremely rare.



Slackwater Darter
(*Etheostoma boschungii*)

There are two distinctly different habitats for the slackwater darter: the nonbreeding habitat and the breeding habitat. The nonbreeding habitat for the slackwater darter consists of small (approximately 23.6 inches wide and 5.9 inches deep) to moderately large (approximately 39.4 feet wide and 6.6 feet deep) streams. The current usually is slow, averaging approximately 1.1 feet per second. Rainfall in the area must be heavy enough to cause flooding that will lift the adults into the spawning grounds.

The breeding habitat consists of seepage water in open fields and woods. Water in the breeding habitat typically is 1.6 to 3.1 inches deep and flows slowly into an adjacent stream. The breeding sites typically are 11.8 to 17.7 inches above the adjacent stream; therefore, the stream water must periodically rise to give the darters access to the breeding grounds. Adults begin migration to the breeding habitat around the middle of January. Typically, the larvae and adults leave the breeding habitat by the end of May.

The State of Tennessee also lists two other fish species that occur in the Cypress Creek watershed: flame chub (*Hemitremia flammea*) and crown darter (*Etheostoma corona*). The flame chub is deemed in need of management and the crown darter is designated as endangered.

A biological assessment of the general survey area was conducted to determine how much of the project area, if any, was inhabited by these species.

The only endangered species found within the project area were two slackwater darters in Lindsey Creek. One was found approximately 325 feet downstream of the existing Parkway Bridge and the other one was approximately 50 feet upstream of the bridge. Therefore, for Section 7 compliance, formal consultation and mitigation are required. No threatened or endangered species were found near Threet Creek, County Road 85, or Tennessee Highway 13.

c. Birds, Fish and Wildlife

The land on both sides of the Natchez Trace Parkway provides habitat for a wide variety of wildlife species including mammals, birds, reptiles and amphibians. Principal mammals include deer, rabbits, foxes, raccoons, river otters, and bobcats. The birds include mourning doves, woodpeckers, turkeys, and hawks. Reptiles and amphibians, such as snakes and turtles, also occur within the project area. The proposed Project would be conducted to comply with Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds.

d. Wetlands

Hydrophytic plants are plant life growing in water or on a base, such as other plant life, rocks or soils, which is at least periodically deficient in oxygen as a result of excessive water content.

Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop an oxygen deficiency that favors the growth and regeneration of hydrophytic plants.

Wetland hydrology exists if areas are seasonally inundated and/or saturated to the surface for a consecutive number of days for more than 12.5 % of the growing season.

* 1987 ACOE Delineation Manual Definitions

Pursuant to Executive Order 11990: Protection of Wetlands, the impact of a project on wetland areas must be assessed. For the purposes of implementing E.O. 11990, any area that is classified as wetland habitat according to the U.S. Fish and Wildlife Service's (FWS) "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979) is subject to Director's Order #77-1 and its implementing procedures. The Cowardin classification system forms the basis for the FWS's National Wetlands Inventory (NWI) mapping program. Under the Cowardin classification system, a wetland must have one or more of the following attributes:

- At least periodically, the land supports predominantly hydrophytes (wetland vegetation)
- The substrate is predominantly undrained hydric soil; or
- The substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of the year.

The Cowardin definition includes more habitat types than the wetland definition (33 CFR 328.3) and delineation manual used by the Corps of Engineers (Corps) for identifying wetland subject to Section 404 of the Clean Water Act. The 1987 "Corps of Engineers Wetlands Delineation Manual" requires that all three of the parameters listed above (hydrophytic vegetation, hydric soil, wetland hydrology) be present in order for a habitat to be considered a wetland.

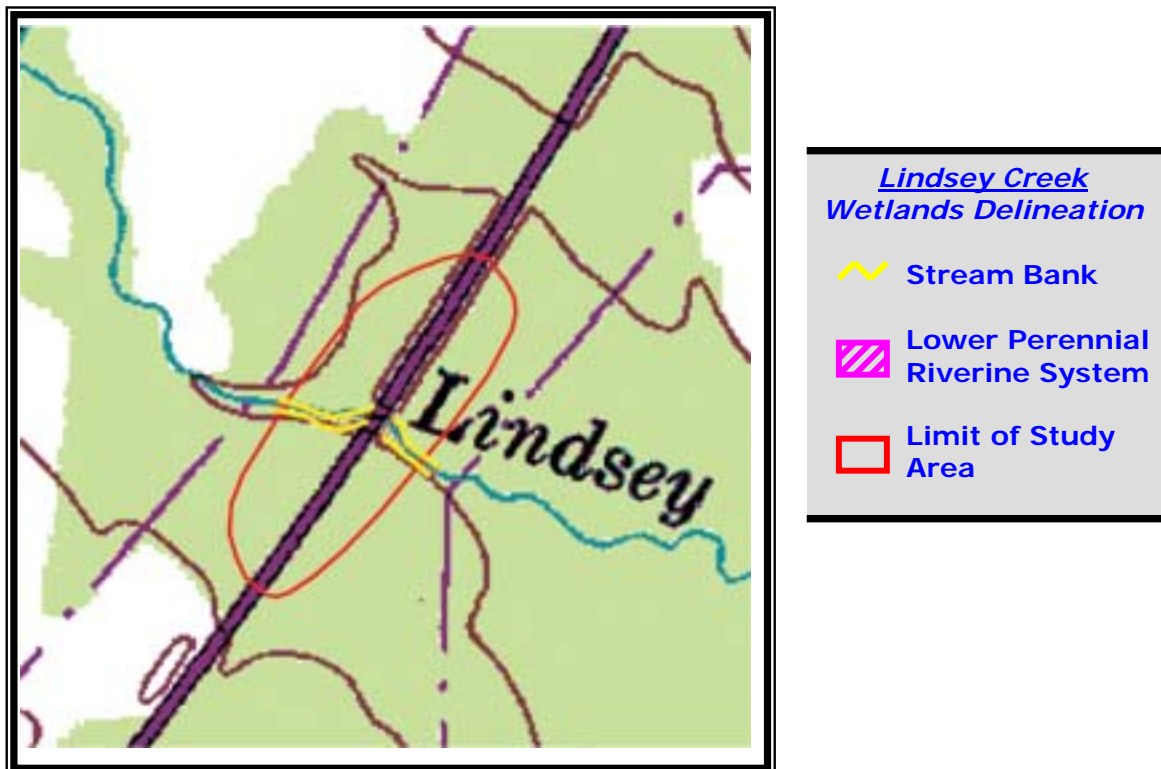
This project area includes at least two areas listed as wetlands on NWI maps, therefore field investigations and wetland delineations at each of the four project sites were conducted in November 2003. Field efforts included plant identification throughout the site to determine the presence of hydrophytic vegetation. Various taxonomic keys of regional flora were consulted for species identification. Soil core samples were taken from selected locations and analyzed to determine the presence of hydric soils. The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Survey of Wayne County, Tennessee, and the Soil Survey of Lauderdale County, Alabama, were used to supplement all field soil studies.

Lindsey Creek

The National Wetlands Inventory (NWI) map shows the presence of seasonally flooded forest wetlands along both banks of Lindsey Creek. The wetlands provide floodwater storage and wildlife habitat.

The 2003 investigation determined that the forests surrounding Lindsey Creek marked as wetlands on the NWI maps do not satisfy the Cowardin wetland criteria or the Corps criteria stated above. Soil core samples did not indicate the presence of key hydrologic soil indicators in the portion of the study area adjacent to Lindsey Creek and the area does not support a majority of hydric vegetation.

The Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL determined that the only Corps jurisdictional water of the U.S within the study area is the stream channel of Lindsey Creek. This channel is approximately 38 feet wide and extends throughout the study area. The limits of the study area were approximately 260 feet to the west and 180 feet to the east of the existing Natchez Trace Parkway Bridge.



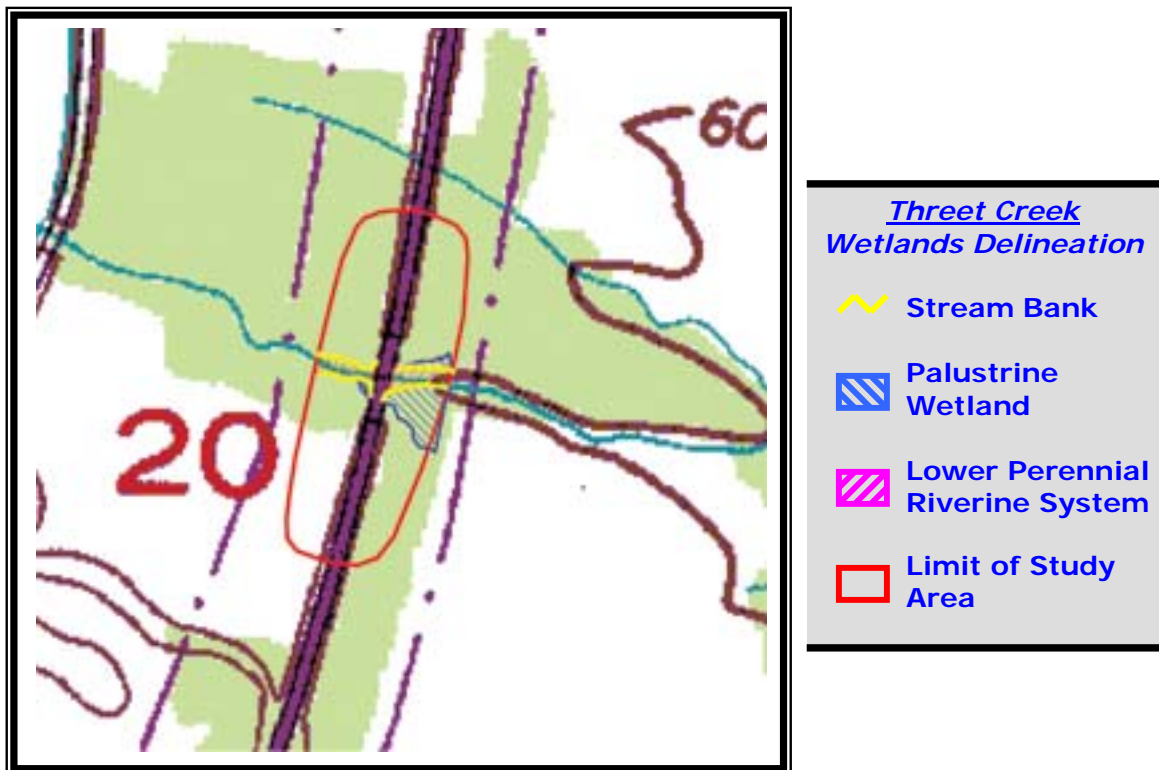
Threet Creek

The NWI map shows several different types of wetlands along the banks of Threet Creek. The wetlands provide floodwater storage and wildlife habitat.

The 2003 investigation determined that the majority of the forests surrounding the Natchez Trace Parkway crossing over Threet Creek shown as wetlands on the NWI maps meet the Cowardin criteria, but do not meet the Corps criteria. Hydrophytic vegetation is dominant in most of the study area, but soil core samples indicated the presence of hydric soils only in some portions of the study area. Wetland hydrology was also only present in some portions of the study area.

The Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL identified three small wetland areas occupying 0.45 acres as Corps jurisdictional wetlands (water of the U.S.). The largest of these associated wetlands is adjacent to the Natchez Trace Parkway and south of Threet Creek. A smaller wetland is located on the north bank of Threet Creek, and the smallest of the three-wetland areas is located on the south bank of Threet Creek adjacent to the Natchez Trace Parkway.

The stream channel of Threet Creek was also identified as a Corps jurisdictional water of the U.S. The stream is an average of 43 feet wide as it flows west to east through the project area. The limits of the study area were approximately 149 feet to the west side and 151 feet to the east of the existing Natchez Trace Parkway Bridge.



Lauderdale County Road 85

The NWI map shows no mapped wetlands within the vicinity of the Natchez Trace Parkway crossing of Lauderdale County Road 85. However, several mapped wetlands are shown less than half a mile south at Threet Creek and east at Cypress Creek. The Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL indicated that there were no streams, wetlands, or drainages within the Project area.

Tennessee Highway 13

The National Wetland Inventory (NWI) map shows no mapped wetlands within the vicinity of the Natchez Trace Parkway crossing of Tennessee Highway 13. The Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL confirmed that no wetlands are present within the project limits.

2. Environmental Effects

a. Vegetation

i. *No Action Alternative*

No change from the existing conditions is anticipated.

ii. *Alternative A*

Alternative A would have a moderate temporary adverse impact on vegetation. The demolition of the four existing bridges and the construction of replacement structures, adjacent temporary bridges and temporary detour roads would disturb 1.25 acres of vegetation at the Lindsey Creek site, 1.91 acres at the Threet Creek site, 1.50 acres at Lauderdale County Road 85 and 0.90 acres at Tennessee Highway 13 for a total loss of 5.56 acres. The vegetation that would be cleared ranges from grass to 36" diameter trees. The vegetation impacted by the adjacent detours at Threet and Lindsey Creek would be approximately half mowed grass and half forested area. The vegetation impacted by the adjacent detour at Lauderdale County Road 85 would be primarily grasses. The construction of temporary roads to connect Striklin Grocery Road to the Parkway would impact primarily forested land.

The permanent adverse impact to vegetation from Alternative A would be moderate. While areas disturbed for grading, utility relocation, and temporary detour road construction would be allowed to re-vegetate naturally, it likely would be many years before the caliber of trees

and density of vegetation matched the present. All embankment material used to construct the detours would be applied to the adjacent Parkway shoulders and slopes to flatten the grade and provide more stable shoulders and slopes.

Similar vegetation to that removed exists throughout the park and would be protected under the current management plans. Therefore, while the adverse impacts to vegetation in the vicinity of the four bridge locations would be moderate, the overall vegetation of the Parkway would not be impaired.

iii. *Alternative B*

Alternative B would have a moderate temporary adverse impact on vegetation. The construction of an adjacent temporary detour road at Tennessee Highway 13 to maintain access to the Natchez Trace Parkway during bridge construction would require clearing of approximately 2 acres of vegetation. The vegetation that would be cleared ranges from grass along the shoulder to trees 36" in diameter. Most of the two acres is forested, with the exception of a mowed grass portion adjacent to TN 13. No vegetation would be affected using local detours at the other bridge sites.

The permanent adverse impact to vegetation from Alternative B would be moderate. While areas disturbed for grading, utility relocation, and temporary detour road construction would be allowed to re-vegetate naturally, it likely would be many years before the caliber of trees and density of vegetation matched the present. All embankment material used to construct the detours would be applied to the adjacent Parkway shoulders and slopes to flatten the grade and provide more stable shoulders and slopes.

Similar vegetation to that removed exists throughout the park and would be protected under the current management plans. Therefore, while the adverse impacts to vegetation in the vicinity of the four bridge locations would be moderate, the overall vegetation of the Parkway would not be impaired.

iv. *Conclusions*

Under Alternative A, moderate temporary impacts to vegetated areas would result due to the construction of temporary bridges and detour roads. Alternative A would impact approximately 3 acres of grasses, and 2.5 acres of forested land. Alternative B would impact approximately 2 acres of forested land. Both Alternative A and B would have moderate long-term adverse impacts to vegetation, however, Alternative B would require less clearing. Any areas cleared for grading,

construction activities, and utilities relocation would be reseeded. The area cleared for the detour roads would be restored to the existing conditions. No impairment of the Park's vegetation would occur under any alternative.

b. Threatened and Endangered Species

i. *No Action Alternative*

No change from the existing conditions is anticipated, however the continued seepage of efflorescence and spalling of concrete into the water below the bridge may have an affect on the flame chub, slackwater darter, or the crown darter.

ii. *Alternative A*

Alternative A is likely to have an adverse impact on the flame chub, slackwater darter or the crown darter during construction. Areas of Lindsey and Threet Creeks within the construction zone would not be available for spawning activities. Both areas are small in size (less than 0.21 acres) and do not exhibit the characteristics favored by slackwater darters during spawning, however slackwater darters are found in Lindsey Creek year round.

The removal of 3.16 acres of vegetation around the Lindsey and Threet Creek Bridge Sites and a further 1.50 acres of vegetation at the Lauderdale County Road 85 site may cause small increases in turbidity, sedimentation deposits, and flow during storms in Lindsey and Threet Creeks and unnamed streams around County Road 85. Because all three of these streams flow into Cypress Creek, that creek may also see such increases. Because Lindsey and Cypress Creeks are slackwater darter habitat, this potential does pose an adverse temporary impact to the slackwater darter.

In order to minimize the impact during construction, no construction activity would take place in the stream or on floodplain or seepage areas adjacent to the stream during the slackwater darter spawning season of January 1st to May 31st to prevent any disturbance to spawning individuals.

For construction activities that take place from June 1st to December 31st, mechanized equipment within the stream channel would be limited or excluded.

The temporary detour bridges over Lindsey Creek and Threet Creek would cross these streams with no direct impact on the streams. These bridges are 120' long, single-span structures and therefore no piers or abutments would be constructed within the stream channel of Lindsey Creek or Threet Creek. It would be

necessary to place fill on the approaches to the bridges.

The measures for erosion and sediment control, streambed, and water quality protection proposed in the mitigation section would decrease the impact to the habitat from excessive sedimentation, increases in water temperature, turbidity, increased particulate matter, or similar factors that would adversely impact these fish. Such measures include installation of silt fences to minimize siltation, installation of geotextile fabric to avoid damage to the stream bottom, and placement of geotextile fabric on disturbed areas prior to re-vegetation. Also, Best Management Practices would be implemented to reduce sedimentation and erosion in the stream channels. These and other measures outlined in the construction and mitigation sections would be implemented during the construction and post construction phases to help assure habitat availability in perpetuity.

iii. *Alternative B*

Demolition and construction methods for Lindsey Creek and Threet Creek were revised to have the least impact possible to the Creeks. Under Alternative B, debris shields would be constructed for the removal of the existing structure and construction of the new substructures, greatly minimizing the amount of material falling into the stream.

In order to minimize the impact during construction, no construction activity would take place in the stream or on floodplain or seepage areas adjacent to the stream during the slackwater darter spawning season of January 1st to May 31st to prevent any disturbance to spawning individuals.

For construction activities that take place from June 1st to December 31st, mechanized equipment within the stream channel would be limited or excluded.

Best Management Practices would be implemented to reduce sedimentation and erosion in the stream channels. These and other measures outlined in the construction and mitigation sections would be implemented during the construction and post construction phases to help assure habitat availability in perpetuity.

iv. *Conclusions*

In a letter dated November 30, 2004, the Alabama US Fish and Wildlife Service stated "We are concerned that potential exists for causing damage to the slackwater darter and its Critical Habitat from the installation and removal of these temporary and permanent structures,"

and that "Any alteration of the Critical habitat described as the areas adjacent to the creek and flooded by normal rainfall from January thru May would be considered a "take" under provisions of the ESA, as would direct impacts to the darter." The letter also stated that "If either Build A or B Alternatives will impact the creeks or Critical Habitat will fill or siltation further consultation should be requested by the FHWA or NPS." (See Appendix A, Page 7).

On May 4, 2005, a letter was sent to the FWS-Daphne Field Office requesting formal consultation for the replacement of bridges on the Natchez Trace Parkway over Threet and Lindsey Creek under the preferred alternative, Alternative B. The letter stated that the proposed project "may affect, and is likely to adversely affect" the slackwater darter," and "may affect, but is not likely to adversely affect" the critical habitat of the slackwater darter. (See Appendix A, Page 9)

On September 15, 2005 the FWS-Daphne Field Office transmitted the FWS's biological opinion. The biological opinion included an incidental take statement, reasonable and prudent measures, terms and conditions, and conservation recommendations. (See Appendix A, Page 13) The receipt of this biological opinion concluded formal consultation.

Proposed mitigation measures and the terms and conditions stated by the FWS would greatly reduce the impact to the slackwater darter. With the implementation of the measures stated in the Environmental Commitments and Mitigation section of this document, none of the alternatives would result in impairment to threatened or endangered species within the Park.

c. Birds, Fish and Wildlife Resources

i. *No Action Alternative*

No new impacts to the wildlife species and aquatic habitats within the Project area would occur under this alternative, however the seepage of efflorescence and spalling of concrete may negatively impact aquatic species in the area.

ii. *Alternative A*

Alternative A would have the potential for moderate temporary impacts on birds, fish, and wildlife in the project area. The demolition of the four existing bridges and the construction of replacement structures, adjacent temporary bridges and temporary detour roads would disturb 1.25 acres of potential habitat at the Lindsey Creek site, 1.91 acres at the Threet Creek site, 1.50

acres at Lauderdale County Road 85 and 0.90 acres at Tennessee Highway 13 for a total loss of 5.56 acres.

In addition to the habitat loss, the temporary disturbance associated with construction may cause some animals and birds to flee the project area during construction. Animals killed by vehicular traffic on the Parkway may increase slightly due to increased roadway areas and less habitat vegetation.

The permanent adverse impact to vegetation from Alternative A would be minor. While areas disturbed for grading, utility relocation, and temporary detour road construction would be allowed to re-vegetate naturally, it likely would be many years before the habitat matched the present. However, it is anticipated that once construction is complete all species, which currently inhabit the area, would return.

iii. *Alternative B*

Alternative B would have a moderate temporary impact on birds, fish, and wildlife in the project area. The proposed adjacent temporary detour road at Tennessee Highway 13 would require the temporary loss of 2 acres of habitat.

In addition to the habitat loss, the temporary disturbance associated with construction may cause some animals and birds to flee the project area during construction. Animals killed by vehicular traffic on the Parkway may increase slightly due to increased roadway areas and less habitat vegetation.

The permanent adverse impact to birds, fish, and wildlife from Alternative B would be minor. While areas disturbed for grading, utility relocation, and temporary detour road construction would be allowed to re-vegetate naturally, it likely would be many years before the habitat matched the present. However, it is anticipated that once construction is complete all species currently living in the area would return.

iv. *Conclusions*

Under Alternative A, moderate temporary impacts to wildlife would result due to the construction of temporary bridges and detour roads. Alternative B would impact wildlife less than Alternative A. Both Build Alternatives would have minor long-term adverse impacts to wildlife. Any areas cleared for grading, construction activities, and utilities relocation would be reseeded. The area cleared for the detour roads would be restored to the existing conditions. No impairment of the Park's wildlife would occur under any alternative.

d. Wetlands

i. *No Action Alternative*

The continued spalling and seepage of efflorescence may negatively impact wetlands adjacent to the bridges over Threet and Lindsey Creek.

ii. *Alternative A*

No impact to wetlands would occur in the TN Highway 13 and County Road 85 project sites. Both the Lindsey Creek and the Threet Creek sites have wetlands delineated in the Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL. Both of the temporary bridges and detour roads for these creeks are located to the west of the permanent crossings. The only wetlands in these areas are the banks of the creeks and the creeks themselves. Because the temporary bridges are 120 feet long, the temporary abutments would be outside the wetland areas. Since the temporary bridges are single-span structures, no piers would be constructed in the wetland area. Therefore, the only impacts from the temporary bridges would be any disturbance caused by construction equipment – these impacts would be minimal and temporary.

Only Piers #2 and #3 of the proposed permanent bridge over Lindsey Creek would be constructed in a wetland area. This is mitigated by the fact that both piers would be constructed in previously disturbed areas.

The construction project would have a beneficial impact on wetlands at Lindsey Creek. The elongation of the bridge by 40' would result in the removal of the present north abutment and associated fill from the wetland area. Because Lindsey Creek's banks are presently approximately two feet north of the face of the abutment upstream and downstream of the bridge, this area is very likely to become wetland shortly after construction.

The majority of the proposed permanent bridge over Threet Creek is located in a delineated Palustrine wetland. However, because the proposed Threet Creek Bridge would be built in the same location as the existing Threet Creek Bridge, the majority of the bridge would be built in a presently disturbed area. Thus, only the widening of the abutments, piers, and the placement of riprap could impact the wetlands. Approximately 0.08 acres of Cowardin wetlands would be impacted within which 0.06 acres of Corps jurisdictional wetlands would be permanently impacted.

iii. *Alternative B*

No impact to wetlands would occur in the TN Highway 13 and County Road 85 project sites. Both the Lindsey Creek and the Threet Creek sites have wetlands delineated in the Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL.

Only Piers #2 and #3 of the proposed permanent bridge over Lindsey Creek would be constructed in a wetland area. This is mitigated by the fact that both piers would be constructed in previously disturbed areas.

The construction project would have a beneficial impact on wetlands at Lindsey Creek. The elongation of the bridge by 40' would result in the removal of the present north abutment and associated fill from the wetland area. Because Lindsey Creek's banks are presently approximately two feet north of the face of the abutment upstream and downstream of the bridge, this area is very likely to become wetland shortly after construction.

The majority of the proposed permanent bridge over Threet Creek is located in a delineated Palustrine wetland. However, because the proposed Threet Creek Bridge would be built in the same location as the existing Threet Creek Bridge, the majority of the bridge would be built in a presently disturbed area. Thus, only the widening of the abutments, piers, and the placement of riprap could impact the wetlands. Approximately 0.08 acres of Cowardin wetlands would be impacted within which 0.06 acres of Corps jurisdictional wetlands would be permanently impacted.

iv. *Conclusions*

No alternative would result in any filling or encroachment of wetlands in the Highway 13 or County Road 85 project sites. Both Alternatives would result in a potential permanent encroachment of 0.06 acres of Corps jurisdictional wetlands, or 0.08 acres of Cowardin wetlands. Alternative A would have a temporary wetland impact of 1.22 acres as determined using the Cowardin classification system because of the fill associated with the construction of the adjacent detours. Alternative B is not expected to have any wetland encroachment associated with the detour construction. After the construction of the project the fill would be removed, and the area revegetated.

In compliance with Executive Order 11990: Protection of Wetlands, should the preferred alternative be selected, a Wetland Statement of Findings is not required because the total wetland encroachment of approximately 0.08 acres is less than 0.10 acres (using the Cowardin classification system). The proposed action is consistent with Director's Order #77-1. No impairment of the Park's wetland resources would occur under any alternative.

B. *Physical Environment*

1. *Affected Environment*

a. Air Quality

The State of Tennessee monitors the amounts of suspended particulates, sulfur dioxide, carbon monoxide, ozone, non-methane hydrocarbons, nitrogen dioxide, lead, and gaseous fluorides in the air. According to the Environmental Protection Agency (EPA), Wayne County has been in attainment for all criteria pollutants since the inception of its monitoring program. Attainment indicates that a criteria air pollutant meets acceptable health-based levels of the national ambient air quality standards.

The State of Alabama monitors the air for PM₁₀ and PM_{2.5} particulates, ozone (O₃), sulfur dioxide (SO₂), lead, acid deposition, and carbon black. The State does not currently monitor for nitrogen oxide (NO₂) or carbon monoxide (CO). According to EPA, Lauderdale County is currently in attainment for all criteria pollutants, but the County was in nonattainment for one year for sulfur dioxide in 1992.

b. Hydrology and Water Quality

Lindsey Creek

The site is located within the Pickwick Lake watershed with an average jurisdictional stream channel width of 38 feet. Lindsey Creek is mapped as a perennial stream with a watershed of over 6 square miles. In 1956, during construction of the Parkway bridge over Lindsey Creek, the creek channel was filled, and Lindsey Creek redirected to flow under the center span of the bridge, approximately 38' south. Since then, Lindsey Creek has moved back into the old channel and the North Bank of the creek is now behind the current North Abutment of the bridge.

The project area would not be considered within the headwaters of Lindsey Creek. Jurisdictional wetland areas were not observed within the seasonally to temporarily flooded forested wetlands. The only jurisdictional area observed was the stream channel of the creek. Site hydrology appears to be from a combination of upland runoff, overbank flooding, and groundwater discharge. All waters occur within a floodplain

geomorphic setting.

Threet Creek

The site is located within the Pickwick Lake watershed with an average jurisdictional stream channel width of 43 feet. Threet Creek is mapped as a perennial stream with a watershed of over 9 square miles. During construction of the Parkway Bridge over Threet Creek in 1956, the creek channel was deepened. Since then, the creek channel has meandered north and the North Bank of Threet Creek is adjacent to Pier #2.

The Project area would not be considered within the headwaters of Threet Creek. Jurisdictional wetland areas were observed within the seasonally to temporarily flooded forested wetlands, intermittent stream channel and perennial stream channel. Site hydrology appears to be from a combination of upland runoff, overbank flooding, and groundwater discharge. All waters occur within a floodplain geomorphic setting.

Lauderdale County Road 85

The site is located within the Pickwick Lake watershed. The majority of the site appears to be in relatively flat to rolling terrain, with no evidence of surface water. Site hydrology appears to be from roadway and upland runoff. According to the Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL, the site has no jurisdictional streams, wetlands, or drainage areas.

Tennessee Highway 13

The site is located within the Pickwick Lake watershed. It does not appear that a seasonally high groundwater table contributes to wetland hydrology. The majority of the site appears to be in relatively flat to rolling terrain, with no evidence of surface water present. Site hydrology appears to be from roadway and upland runoff. According to the Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL, the site indicated no jurisdictional streams, wetlands, or drainage areas.

Water quality criteria for the State of Tennessee, adopted June 7, 1974, specify general and minimum conditions followed by specific water quality criteria based upon use. The parameters for which criteria were established include dissolved oxygen, pH, bacteria, toxic substances, dissolved solids, suspended solids, turbidity, color, temperature, coliforms, and taste/odor. New water quality criteria, proposed in January 2003, also include nutrients, biological integrity, and habitat quality. Comparative or analytical data are not available for this assessment.

Water quality criteria for the State of Alabama specify general and minimum conditions followed by specific water quality criteria based upon use. The parameters for which criteria were established include dissolved oxygen, temperature, pH, priority pollutants, metals, chlorine, and ammonia, macroinvertebrates, Fish Consumption Advisories, and Shellfish Harvesting Area Closures. Comparative or analytical data are not available for this assessment. Threet Creek and Lindsey Creek are not listed on the State of Alabama's 303(d) list of impaired water bodies for 2002.

c. Soils and Geology

Soil surveys for Lauderdale County, Alabama, indicate that the near surface soils within the bridge sites in Alabama consist primarily of Lee and Lobelville Cherty Silt Loams. These are deep, poorly to moderately well drained, nearly level soils on flood plains formed in loamy alluvium.

The Gordo Formation of the Tuscaloosa Group in the Coastal Plain Province underlies the Lindsey Creek, Threet Creek, and Lauderdale County Road 85 sites. The Gordo Formation consists of massive beds of cross-bedded sand, gravelly sand, and lenticular beds of locally carbonaceous partly mottled moderate-red and pale-red-purple clay; the lower part is predominately gravelly sand consisting chiefly of chert and quartz pebbles.

The Tuscaloosa Formation of the Highland Rim underlies the general area of the Highway 13 site. The Tuscaloosa Formation consists of poorly sorted, light-gray chert gravel in a matrix of silt and sand; locally interbedded with sand and clay lenses.

Most of the soils at the road shoulder appear to be fill. The Natural Resource Conservation Service (NRCS) and NWI identify a Lee cherty silt loam, in the Lindsey Creek area. This soil is listed by Lauderdale County as a hydric soil; the field investigations conducted by Dial Cordy and Associates indicate the hydrology appears to have changed and that water may only rarely back up or pond in the relief area. The wetland delineation indicated that the Lee Cherty Silt Loam soils onsite at Lindsey Creek do not support the majority of hydric vegetation and are not wetland soils. Also, soil core samples do not indicate the presence of any key hydrologic soil indicators in the portion of the study area adjacent to Lindsey Creek.

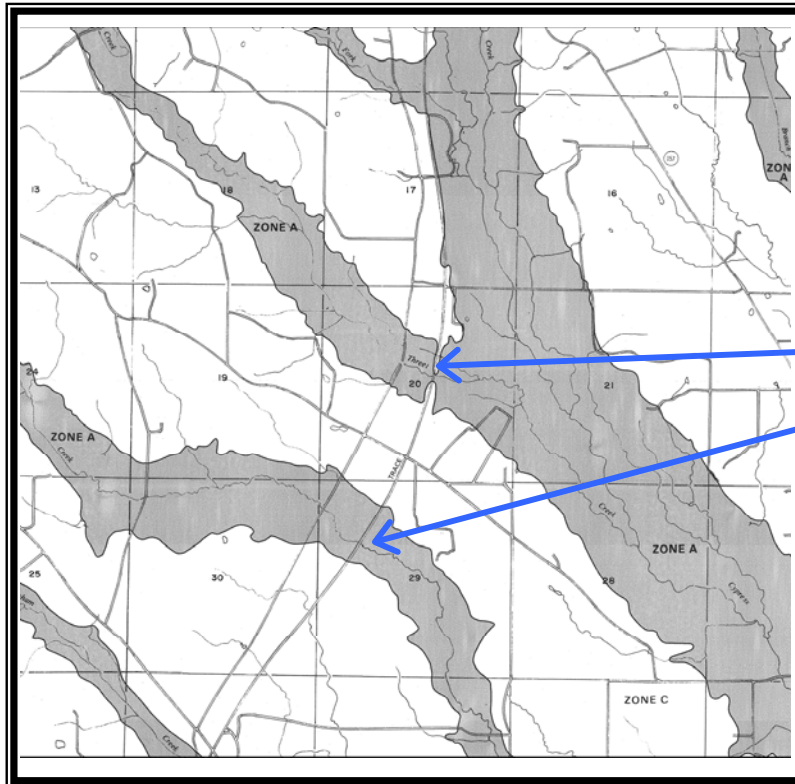
The NRCS and NWI identify Lobelville cherty and Pruitton silt loams in the north part of the Threet Creek area. The soils found at Threet Creek within the Project area were Lobelville Cherty Silt Loam and Pruitton Series Loam. According to the NRCS, neither one of these soils is classified as a hydric soil; field investigations conducted by Dial Cordy and Associates indicated otherwise. The field surveys indicate that soils are present on site that support hydrophytic plants and that have hydrologic indicators.

d. Noise

The four areas are primarily rural. Vehicular traffic generates the majority of noise in the project area.

e. Floodplains

Pursuant to Executive Order 11988: Floodplain Management, the impact of a project on floodplains must be assessed. Federal Emergency Management Agency (FEMA) maps show that the Lindsey Creek and the Threet Creek bridges are within 100-year-flood floodplains.



*FEMA Flood Insurance
Rate Map
Lauderdale County, AL*

● Threet Creek

● Lindsey Creek

According to the FEMA definition, the "100-year flood" is not the flood that will occur once every 100 years. Rather, it is the flood elevation that has a 1- percent chance of being equaled or exceeded each year. Thus, the 100-year flood could occur more than once in a relatively short period of time.

The floodplains upstream and downstream of the Natchez Trace Parkway bridges over both creeks are approximately 1,000 feet wide. The Natchez Trace Parkway was built upon an embankment; as a result the floodplains are abruptly constricted to 104' wide at both of the current bridges across Lindsey and Threet Creeks. Because both Lindsey Creek and Threet Creek are in FEMA 100-year floodplains, the increase in the water surface elevations is limited to 1ft.

The current design standard requires the bridge girders be 2 feet above the fifty-year water level of approximately 6.2 feet for Lindsey Creek and approximately 8.5 feet for Threet Creek. Neither of the existing bridges meets the current design standards for a flood event. The bottom of the current bridge over Lindsey Creek would be 1.66 feet above the water level for a fifty-year storm. The fifty-year water level would be 0.08 feet *above* the bottom of the current bridge over Threet Creek.

2. **Environmental Effects**

a. Air Quality

i. *No Action Alternative*

Air quality levels would remain essentially in the same condition as they are under present conditions.

ii. *Alternative A*

Only negligible short-term adverse impacts from emissions would occur during construction. Construction activities would be conducted in accordance with the Federal Highway Administration's Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, 2003; and would require compliance with all applicable local, State and Federal regulations.

There would be no permanent adverse impact to air-quality under Alternative A.

iii. *Alternative B*

Only negligible short-term adverse impacts from emissions would occur during construction. Construction activities would be conducted in accordance with the Federal Highway Administration's Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, 2003; and would require compliance with all applicable local, State and Federal regulations.

There would be no permanent adverse impact to air-quality under Alternative B.

iv. *Conclusions*

Temporary minor impacts to air quality levels may occur during construction under both Alternatives. However, no permanent impacts are anticipated. No impairment to the Park's air quality would occur under any alternative.

b. Hydrology and Water Quality

i. *No Action Alternative*

No change from the existing conditions is anticipated under the No Action alternative. The problem of Lindsey Creek attacking the existing North Abutment of the bridge would not be resolved.

ii. *Alternative A*

Potential temporary adverse impacts to water quality due to erosion during construction may occur. The removal of 5.56 acres of vegetation during construction may cause small increases in turbidity, sedimentation deposits, and flow during storms in Lindsey and Threet Creeks and unnamed streams around County Road 85. Because all three of these streams flow into Cypress Creek, that creek may also be impacted by construction. These impacts would be mitigated by the implementation of a sediment and erosion control plan, including Best Management Practices, during construction.

There would be no permanent adverse impacts to water quality. The lengthening of the bridge over Lindsey Creek to 144' beneficially impacts hydrology by widening the channel available to Lindsey Creek. The replacement of the existing North Abutment with a pier and the construction of a new abutment approximately 32' north of the present abutment would allow Lindsey Creek to flow around bridge Pier #3.

iii. *Alternative B*

Potential short-term impacts to Lindsey Creek and Threet Creek, tributaries to Cypress Creek, may occur due to erosion during demolition and construction. These impacts would be mitigated by the implementation of a sediment and erosion control plan, including Best Management Practices, during construction.

There would be no permanent adverse impacts to water quality. The lengthening of the bridge over Lindsey Creek to 144' beneficially impacts hydrology by widening the channel available to Lindsey Creek. The replacement of the existing North Abutment with a pier and the construction of a new abutment approximately 32' north of the present abutment would allow Lindsey Creek to flow around bridge Pier #3.

iv. *Conclusions*

No impairment to the Park's water quality would occur under any alternative. However, under both Alternatives, the possibility of minor impacts to water quality and ultimately the slackwater darter species, and its habitat could occur. Both build alternatives also improve the hydrological profile of Lindsey Creek.

c. Soils and Geology

i. *No Action Alternative*

No change from the existing conditions is anticipated.

ii. *Alternative A*

Under Alternative A, there would be approximately 5.56 acres of clearing and grubbing for lengthening the bridge spans and constructing the temporary detour roads. Total roadway embankment construction, including the temporary connector, would be approximately 11,000 cubic yards. All disturbed area would be stabilized upon completion of construction. There would be potential for erosion during construction. Alternative A would result in only negligible, localized, and temporary adverse impact on local geology or soils. There would be no long-term changes to the existing geology and only minimal changes to the local topography. No permanent adverse impacts are expected to occur.

iii. *Alternative B*

Under the Alternative B, there would be approximately 2 acres of clearing and grubbing for lengthening the bridge spans and constructing the temporary detour roads for Highway 13 site. Total roadway embankment construction including the temporary connector would be approximately 120 cubic yards. All disturbed area would be stabilized upon completion of construction. There would be potential for erosion during construction. Alternative B would result in only negligible, localized, and temporary adverse impact on local geology or soils. There would be no permanent changes to the existing geology and only minimal changes to the local topography. No permanent adverse impacts are expected to occur.

iv. *Conclusions*

Alternative A would require approximately 5.56 acres of clearing of the area for detour construction and associated grading, resulting in an increase in possible erosion during construction. Alternative B requires 2 acres of clearing with the associated increase in erosion potential. Minor temporary erosion and stream siltation can be expected during construction. However, Best Management Practices would be applied and sediment and erosion control plans would be developed as part of the construction plans. No impairment to the Park's resources would occur under any alternative.

d. Noise

i. *No Action Alternative*

No change from the existing conditions is anticipated.

ii. *Alternative A*

Noise levels may increase temporarily during construction along the Natchez Trace Parkway. Park visitors in the immediate vicinity of the construction area would be subject to the noise pollution during construction period.

Noise levels due to vehicular traffic are anticipated to increase along Alabama Highway 157, Lauderdale County Road 5, and Lauderdale County Road 10 for one month while County Road 85 is closed.

Noise levels are also expected to increase along Striklin Grocery Road for the duration of the project and along the Natchez Trace Parkway and Railroad Bed-Iron City Road on the three weekends that Highway 13 is closed.

These impacts are expected to be minor due to the short duration of the closures of County Road 85 and Highway 13 and the wooded nature of the terrain around Striklin Grocery Road.

iii. *Alternative B*

Noise levels may increase temporarily during construction along the Natchez Trace Parkway. Park visitors in the immediate vicinity of the construction area at Highway 13 would be subject to additional noise pollution during construction.

Noise levels along the Natchez Trace Parkway are expected to increase during the six-day closure of Highway 13. Noise levels due to vehicular traffic along Alabama Highway 157 are also expected to increase during the closure of County Road 85. These two temporary impacts are expected to be minor due to the short duration of the closures of Highway 13 and County Road 85.

Noise levels along County Roads 5 and 10 are expected to increase due to the increased number of vehicles using these roads. This noise is expected to be fairly constant throughout daylight hours due to the recreational nature of the diverted Parkway traffic. The increase in noise is expected to be readily perceived by residents along County Roads 5 and 10. This noise impact would be temporary and expected to last the duration of the construction period.

iv. *Conclusions*

No impairment to the Park's soundscape is expected to occur under any alternative. Alternatives A and B would have similar noise impacts to the soundscape of the Park because the number of vehicles would be the same. The

noise impacts to the residences along the detour routes would increase.

e. Floodplains

i. *No Action Alternative*

No additional impacts to the floodplains of Lindsey Creek or Threet Creek are anticipated under this alternative.

ii. *Alternative A*

Alternative A would be expected to have a minor temporary impact on the floodplains of Lindsey and Threet Creek. The construction of the temporary detour roads and bridges on the west side of the permanent crossings would require the placement of approximately 3,994 cubic yards of fill in the Lindsey Creek floodplain and approximately 3,800 cubic yards of fill in the Threet Creek floodplain. These temporary detours would reduce the width of the floodplain to 120' in the vicinity of the detours.

The temporary bridges and detour roads would be designed for a ten-year flood of approximately 4 feet in Lindsey Creek and approximately 7.81 feet in Threet Creek. For a ten-year flood, the temporary detour bridges would have 0.43 feet of freeboard at Lindsey Creek and 0.55 feet of freeboard over Threet Creek. Should floodwaters exceed that height during construction, this portion of the Natchez Trace Parkway would be impassible under Alternative A.

Any impact caused by Alternative A would be mitigated by the fact that construction activities that would affect the creeks or the adjacent wetlands are not permitted between January 1 and May 31. Precipitation Data for Waterloo, Alabama and Florence, Alabama from the Southeast Regional Climate Center (SRCC) indicates that the wettest months in Lauderdale County, with the greatest chance of flooding, occur during the time construction activity in the channel and adjacent wetlands is prohibited.

Alternative A would have a minor permanent impact on the floodplains of Lindsey and Threet Creeks. Because of modern design requirements, the freeboard of the bridge over Lindsey Creek for a 50-year-flood would be reduced to 0.82 feet. There would be a backwater increase of 0.43 feet in the Threet Creek floodplain; this is within the permitted limits.

There is also a beneficial impact on the floodplains of Lindsey and Threet Creek. The lengthening of the Lindsey Creek bridge reduces the constriction of the floodplain by 40 feet. The proposed bridge over Threet

Creek would provide an additional 0.87 feet of vertical clearance for a fifty-year flood.

iii. *Alternative B*

Alternative B would have few, if any, temporary impacts to the floodplains of Lindsey and Threet Creeks. Alternative B would have a minor permanent impact on the floodplains of Lindsey and Threet Creeks. Because of modern design requirements, the freeboard of the bridge over Lindsey Creek for a 50-year-flood would be reduced to 0.82 feet. There would be a backwater increase of 0.43 feet in the Threet Creek floodplain; this is within the permitted limits.

There would also be a beneficial impact on the floodplains of Lindsey and Threet Creek. The lengthening of the Lindsey Creek bridge reduces the constriction of the floodplain by 40 feet. The proposed bridge over Threet Creek would provide 0.87 feet of additional vertical clearance for a fifty-year flood.

iv. *Conclusions*

The No Action Alternative would have no additional impacts on the Lindsey Creek or Threet Creek floodplains. Alternative A would have temporary impacts on the floodplain during construction but would improve the current situation. Alternative B would have minimal to no impact on the floodplain during construction and provides the same benefits as Alternative A. No impairment of the floodplain of Lindsey or Threet Creek is expected.

All reasonable action to minimize the impact to the natural resources of the floodplains has and continues to occur. Due to the nature of the project, replacing existing bridges, it is not practicable to locate or relocate the structures outside and not affecting the floodplain. Therefore because of the backwater increase of 0.43 feet in the Threet Creek floodplain as a result of selecting and constructing either Alternative A or B, a Statement of Findings will be prepared in accordance with procedures described in Procedural Manual 77-2: Floodplain Management.

C. ***Visitor Use and Experience***

1. **Affected Environment**

The Natchez Trace Parkway is the main access route to the historic Old Natchez Trace and provides a leisurely route from Natchez, Mississippi to Nashville, Tennessee. The Parkway's 51,984 acres provide opportunities for camping, picnicking, hiking, walking, auto tours, swimming, boating, horseback riding, exhibits, biking, seasonal crafts festivals and demonstrations. Two picnic grounds lay within the

general study area – Holly Picnic Area at Milepost 346.2 and the Cypress Creek Picnic Area at Milepost 343.5 on the Natchez Trace Parkway.

In 2003, the Natchez Trace Parkway estimated the number of recreational visits along the Parkway at 5,576,412. Average daily traffic along the Parkway in the vicinity of the four bridges was estimated at 960 vehicles in 2003 by the Tennessee Department of Transportation. The Parkway was designed for a speed in excess of 60 MPH and the present speed limit is 50 MPH.

2. **Environmental Effects**

a. No Action Alternative

No change from the existing conditions is anticipated. The existing bridge deterioration and safety issues would not be addressed, thus potentially affecting visitor accessibility over the long term. The existing weight restrictions on the bridges would continue to be imposed.

b. Alternative A

There may be temporary impacts to visitor use and enjoyment of the Natchez Trace Parkway during construction of the four bridges. The detours at Lindsey Creek, Threet Creek, and County Road 85 would have minimal impact on visitors along the parkway because they are adjacent to the Parkway and are short in length.

No permanent adverse impacts to visitation or Parkway use would be anticipated. The replacement of these four bridges would result in a permanent beneficial impact to visitor use and safety on the Parkway. There would also be a beneficial impact to Parkway use by the removal of load restrictions on the Parkway bridges in the general study area.

c. Alternative B

The closure of the Natchez Trace Parkway from Alabama Highway 20 to County Road 10 would divert all traffic from the Natchez Trace Parkway onto County Road 10, County Road 5, and Alabama Highway 20 for approximately two years.

Compared to the Parkway, County Roads 5 and 10 are smaller roads. County Road 5 does not meet minimum Federal Highway Administration standards for a road carrying the projected traffic load of 1230 to 1380 vehicles per day. Travel lanes on County Road 5 are only 8.5 feet to 9 feet wide, with no formalized shoulders. These narrow lanes may make drivers of recreational vehicles, vehicles with trailers, or busses uncomfortable. Safety improvements to the detour route are proposed where necessary to address the lack of guardrail, and steep embankments.

The proposed detour route along Alabama Highway 20, Lauderdale County Road 5, and Lauderdale County Road 10 may be confusing to visitors not familiar with the local area. This would be mitigated by the implementation of a traffic control and detour plan provided in the general construction plans.

These impacts would be readily apparent to visitors on the Natchez Trace Parkway. Other portions of the Natchez Trace Parkway would remain available to visitors. These impacts on visitor use and experience are considered moderate and temporary.

No permanent adverse impacts to visitation or Parkway use would be anticipated. In the long term, the replacement of these four bridges would cause a permanent beneficial impact to visitor use and safety on the Parkway. There would also be a beneficial impact to Parkway use by the removal of load restrictions on the Parkway bridges in the general study area. Safety improvements to Lauderdale County Road 5 necessitated by the local road detour would also have permanent benefits.

d. Conclusions

None of the proposed alternatives would impair the visitor experience along the Natchez Trace Parkway. The no action alternative has no additional impact on Parkway visitors but does not resolve the safety issue of the four Parkway Bridges. Both of the Build Alternatives would make a portion of the Natchez Trace Parkway unavailable to visitors on a temporary basis. Of the two alternatives, Alternative A closes smaller sections of the Parkway and has more direct and shorter detours.

D. ***Local Roads and Traffic***

1. **Affected Environment**

Alabama Highway 20

Alabama Highway 20 runs primarily southeast to northwest from US Highways 43 and 72 in Florence, Alabama to the Tennessee border. Alabama Highway 20 is a paved highway, with two 12-foot wide travel lanes, two 2-foot wide paved and two 5-foot wide grass shoulders. An average of 4,160 vehicles (86% cars, 14% trucks) use Alabama Highway 20 daily, according to the 2002 Alabama Department of Transportation traffic study.

Alabama Highway 20 intersects the Natchez Trace Parkway at approximately milepost 336 on the Parkway. The intersections with Lauderdale County Road 5 and the exit ramps from the Natchez Trace Parkway do not have traffic signals.



*Alabama Highway 20
intersection with
Lauderdale County
Road 5*

Alabama Highway 157

Alabama Highway 157 runs primarily north to south from the Tennessee Border to Alabama Highway 133 in Florence. An average of 1,230 vehicles (92% Cars, 8% Trucks) use Alabama Highway 157 daily, according to the 2002 Alabama Department of Transportation traffic study.

Alabama Highway 157 intersects County Roads 10 and 85 within the general study area – neither intersection has a traffic light. Alabama Highway 157 is a paved highway, with two 12-foot wide travel lanes, two 1-foot wide paved shoulders, and two 5-foot wide grass shoulders.

Lauderdale County Road 5

Lauderdale County Road 5 runs primarily southwest to northeast, parallel to the Natchez Trace Parkway, from County Road 2 to the Tennessee Border. An average of 270 vehicles use County Road 5 daily, according to a 2001 Lauderdale County Traffic Study.

County Road intersects Alabama Highway 20, County Road 10, and County Road 85 within the study area. None of these intersections have traffic lights. County Road 5 is a paved road, with an average width of 17 feet and no formal shoulders. Some portions of the road have steep embankments and lack guardrail.

The County Road 5 bridge over Lindsey Creek has a maximum weight restriction of 16 tons, and the bridge over Threet Creek is restricted to vehicles weighing less than 14 tons. In the summer of 2005, FHWA conducted load rating tests, and determined that the bridges would be able to handle traffic that currently uses the Natchez Trace Parkway, including recreational vehicles. County Road 5 is maintained by

Lauderdale County and was last repaved in July of 2004.



*Lauderdale County
Road 5*

Lauderdale County Road 10

County Road 10 runs primarily east to west from the border with Tennessee to County Road 8. County Road 10 is a paved road with an average width of 20 feet and no formal shoulders. The Lauderdale County Engineer estimates that approximately 300 people use County Road 10 daily.

County Road 10 intersects the Natchez Trace Parkway in a two-way stop at Milepost 341.87. There are no weight-restricted bridges on County Road 10 within the study area. County Road 10 is maintained by Lauderdale County and was last repaved in 1995.

Lauderdale County Road 85

Lauderdale County Road 85 runs primarily east to west from County Road 259 to County Road 5, then north to south from County Road 5 to the Tennessee border. County Road 85 is an average of 20-feet wide, with no formal shoulders. The Lauderdale County Engineer estimates that approximately 150 people use County Road 85 daily.

County Road 85 passes under the Natchez Trace Parkway at Milepost 338.78 – there is no interchange. County Road 85 is maintained by Lauderdale County and was last repaved in 2002.



*Lauderdale County
Road 85*

Railroad Bed-Iron City Road

Railroad Bed-Iron City Road runs primarily east to west from Iron City in Lawrence County, TN to the intersection with TN Highway 13 in Collinswood. Railroad Bed-Iron City Road is a paved road, an average of 19 feet wide with two 2-foot wide gravel shoulders. An average of 3,150 vehicles use Railroad Bed-Iron City Road in the vicinity of the interchange with the Natchez Trace Parkway.

The intersection with the exit ramp from the Natchez Trace Parkway does not have a traffic light. The intersection with Tennessee Highway 13 in Collinswood does. Railroad Bed-Iron City Road is maintained by Wayne County.

Striklin Grocery Road

Striklin Grocery Road runs north to south through the general project area parallel to the Natchez Trace Parkway. Striklin Grocery Road is a paved road, an average of 18 to 19 feet wide, with no formal shoulders. Striklin Grocery Road is maintained by Wayne County, and was surface treated in 2002 or 2003. Formal traffic counts have not been done on Striklin Grocery Road, but daily traffic is estimated at less than 400 vehicles per day.



Striklin Grocery Road

Tennessee Highway 13

Tennessee Highway 13 runs primarily north to south from Clarksburg, Tennessee to the Alabama border. Highway 13 is a paved highway, an average of 22-feet wide, with two 3-foot wide gravel shoulders. An average of 4,490 vehicles use Highway 13 in Collinwood, and an average of 2,260 vehicles use Highway 13 south of the Natchez Trace Parkway every day, according to the 2003 Tennessee Department of Transportation traffic study.

Road:

Alabama Highway 20
Alabama Highway 157
Lauderdale CR 5
Lauderdale CR 10
Lauderdale CR 85
Natchez Trace Parkway
Railroad Bed-Iron City Road
Striklin Grocery Road
TN Highway 13

Lane Width (ft)	# Of Lanes (ft)	Roadway Width (ft)	Estimated Vehicles per day
12	2	24	4160
12	2	24	1230
8.5	2	17	270
10	2	20	300
10	2	20	150
11	2	22	960
9.5	2	19	3150
9.5	2	19	400
11	2	22	2260

Alabama DOT
Lauderdale County Engineer
RIP Database
Tennessee DOT
Estimated based on averaging Roadway Width
Estimated based on <u>A Policy Of Geometric Design Of Highways and Streets</u> , Table 5-5
Estimated based on known road width and number of lanes

2. **Environmental Effects**

a. No Action Alternative

No change in existing traffic patterns in the project area is expected.

b. Alternative A

Under Alternative A, no Parkway traffic would be diverted to local roads in Lauderdale County, Alabama.

Parkway traffic would be diverted to Striklin Grocery Road from the Natchez Trace Parkway for approximately 0.33 miles during the demolition and construction of the bridge over Tennessee Highway 13. This would expect to add an additional 960 vehicles per day to Striklin Grocery Road for the duration of the detour. Closure of Tennessee Highway 13 is expected to add an additional 2,260 vehicles to Striklin Grocery Road, the Natchez Trace Parkway, and Railroad Bed-Iron City Road. This peak volume would be expected to have minimal impact on local traffic due to the very short duration of the closure. The improvements to Striklin Grocery Road and the short length of the detour would mitigate any impacts.

The closure of County Road 85 in Lauderdale County, Alabama, would divert an estimated 150 vehicles to Alabama Highway 157, Lauderdale County Road 5, and Lauderdale County Road 10. This would result in an estimated 1380 vehicles on Alabama Highway 157, 420 on County Road 5, and 450 on County Road 10 – approximate increases of 12%, 56%, and 50% respectively. These traffic increases would be likely to be spread throughout the day. These impacts would be anticipated to be minor.

c. Alternative B

Closure of Tennessee Highway 13 is expected to add an additional 2,260 vehicles to the Natchez Trace Parkway, and Railroad Bed-Iron City Road. This peak volume would be expected to have minimal impact on local traffic due to the very short duration of the closure.

The closure of the Natchez Trace Parkway from Alabama Highway 20 to County Road 10 would anticipate diverting an extra 960 vehicles per day to these three roads, increasing traffic by 23% to 5120 vehicles per day on Alabama Highway 20, by 356% to 1230 vehicles per day on County Road 5, and by 320% to 1260 on County Road 10. These increased traffic levels would be expected to be concentrated during daylight hours due to the recreational nature of traffic on the Natchez Trace Parkway.

The closure of County Road 85 would expect to add an additional 150 vehicles to Alabama Highway 157, County Road 5 and County Road 10, resulting in a peak traffic flow of 1380 vehicles on Alabama Highway 157 daily (a 12% increase), 1380 on County Road 5 (a 411% increase), and 1410 on County Road 10 (a 370% increase).

These increases would be readily apparent to motorists on County Road 5 and County Road 10. These impacts would be moderate in magnitude and are expected to last for the

duration of the detour.

d. Conclusions

The No Action Alternative would not affect local traffic levels. Of the two build alternatives; Alternative A diverts considerably fewer vehicles to local roads in Lauderdale County, Alabama. Neither alternative would impair the Park's traffic patterns.

E. ***Socio-Economic Environment***

1. **Affected Environment**

The project sites are located in Lauderdale County, Alabama and Wayne County, Tennessee within the Natchez Trace Parkway.

All four project areas are located within a primarily rural setting. The areas surrounding the Natchez Trace consist of mostly forested land. The Parkway provides access to historical sites and activities such as camping, picnicking, hiking, walking, auto tours, swimming, boating, horseback riding and biking to the north and south. An increase in tourism occurs between Memorial Day and Labor Day. Present commercial traffic on the Natchez Trace is limited due to the reduced load ratings on the bridges in the general study area.

Both Lauderdale County, Alabama and Wayne County, Tennessee are primarily rural. According to the 2000 US Census, Lauderdale County, Alabama has a population of 87,966 people and grew at 10.4% per year from 1990 to 2004. 11.6% of the population identify themselves as members of a racial minority. The median annual income per household is \$33,354, approximately \$1,000 less than the Alabama state average, and 14.4% of the population lives below the poverty line.

Also according to the 2000 US Census, Wayne County, Tennessee has a population of 16,842 people and grew 20.4% from 1990 to 2000. 8.1% of the population identify themselves as members of a racial minority. The median annual income per household is \$26,576, approximately \$10,000 less than the Tennessee state average, and 16.3% of the population lives below the poverty line.

The private land surrounding the Parkway in the general survey area is primarily zoned for low-density residential use. Several communities, primarily Melvin, Threet, and Young's Crossroads, lie within the general study area in Alabama.

2. **Environmental Effects**

a. No Action Alternative

No change from the existing conditions is anticipated.

b. Alternative A

Employment opportunities and related revenues due to construction are expected. These impacts would be minor,

short-term, and beneficial. No additional increase in economic activity in Lauderdale County, especially in Melvin, Threet, and Young's Crossroads, due to increased visitation would be expected.

The detour plan under Alternative A would be expected to cost approximately \$430,000; \$140,000 each for the temporary bridges over Lindsey and Threet Creeks, \$90,000 for the detour at Lauderdale County Road 85, and \$60,000 at Tennessee Highway 13.

In compliance with Executive Order 12898: Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, it has been determined that Alternative A would not disproportionately impact minority or low-income populations because all project work would occur within the boundaries of the Natchez Trace Parkway. No residences or businesses would need to be relocated.

c. Alternative B

Employment opportunities and related revenues due to construction are expected. Further economic activity may be generated by the detouring of Parkway traffic along the local roads, especially through Melvin, Threet, and Young's Crossroads. These impacts would be minor, short-term, and beneficial.

The detour proposed under Alternative B would have an estimated user cost of \$900 per day the Parkway is closed. Based upon a 200-day closure of the Parkway, the total user cost for the local roads detour in Alabama is \$180,000. The adjacent detour for Highway 13 in Tennessee is approximately \$45,000, and overlaying local roads is estimated at \$400,000. Alternative B has an estimated detour cost of \$625,000, or \$225,000 if overlaying of the local routes would not be required.

In compliance with Executive Order 12898: Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, it has been determined that Alternative A would likely not disproportionately impact minority or low-income populations because all project work would occur within the boundaries of the Natchez Trace Parkway. No residences or businesses would need to be relocated.

d. Conclusions

No permanent change to the Park's existing socio-economic environment is anticipated under any alternative. Both Alternatives may bring temporary beneficial economic impacts to Lauderdale County, Alabama and Wayne County, Tennessee. It is not expected that either build alternative would adversely affect minorities or low-income populations.

F. ***Cumulative Impacts***

1. **Environmental Effects**

Cumulative impacts are those impacts on the environment that result from the incremental effect of the project when considered with interrelated past, present, and reasonably foreseeable future projects.

This bridge replacement study coincides with efforts to complete the unfinished portions of the Parkway near Jackson and Natchez and several Parkway rehabilitation projects. The only additional action anticipated in the vicinity of the project are road resurfacing projects proposed from milepost 282 to 342 in Lauderdale and Colbert Counties, Alabama; and Tishomingo, Prentiss and Itawamba Counties, Mississippi, and from milepost 342 to 405 in Wayne, Lawrence, Lewis, and Hickman Counties, Tennessee.

a. No Action Alternative

The No Action Alternative would allow continued weakening of the bridge structures, resulting in increasing load restrictions and potential risks for bridge failure. This deterioration will continue to adversely impact visitor use of and safety on the Natchez Trace Parkway, and may eventually have an adverse impact on the natural environment. The resurfacing projects combined with the resurfacing project would temporarily increase noise and adversely impact air quality and birds, fish and wildlife during construction, but it would have no additional impacts on vegetation, threatened and endangered species, wetlands, water quality, floodplains, soils and geology, visitor use and experience, local roads and traffic. There may be slight beneficial impacts to the socioeconomic environment due to additional workers in the local area during construction.

b. Alternative A

Alternative A would maintain the safety and integrity of the Parkway. The total cumulative impacts associated with this project are anticipated to be minor considering the limited extent of the proposed construction. Impacts associated with the removal of vegetation and water quality would be minor, and the short-term disruption to the wildlife species would not be significant. This Alternative would not prohibit or disrupt plans for completing the unfinished segments of the Parkway, or performing any needed repairs along existing sections. The Parkway would remain an existing 2-lane facility. The resurfacing projects combined with the proposed action would temporarily increase noise and adversely impact air quality and birds, fish and wildlife during construction, but it would have no additional impacts on vegetation, threatened and endangered species, wetlands, water quality,

floodplains, soils and geology, visitor use and experience, local roads and traffic. There may be slight beneficial impacts to the socioeconomic environment due to additional workers in the local area during construction.

c. Alternative B

Alternative B would maintain the safety and integrity of the Parkway. The total cumulative impacts associated with this project are anticipated to be minor considering the limited extent of the proposed construction. Impacts associated with the removal of vegetation and water quality would not be significant, nor would the short-term disruption to the wildlife species. This Alternative would not prohibit or disrupt plans for completing the unfinished segments of the Parkway, or performing any needed repairs along existing sections. The Parkway would remain an existing 2-lane facility. The resurfacing projects combined with the resurfacing project would temporarily increase noise and adversely impact air quality and birds, fish and wildlife during construction, but it would have no additional impacts on vegetation, threatened and endangered species, wetlands, water quality, floodplains, soils and geology, visitor use and experience, local roads and traffic. There may be slight beneficial impacts to the socioeconomic environment due to additional workers in the local area during construction.

d. Conclusions

The No Action Alternative maintains the present conditions of the Park. Under the Alternatives A and B, the effects are minimal. The widening of the bridges spans to accommodate the wider roads under the Parkway would not change the character of the Parkway nor would it create any permanent impacts. Any adverse impacts, like closure of the Parkway, would only occur during construction and are not likely to continue once construction is complete. The alternatives combined with the resurfacing projects would not cause significant adverse impacts in the project vicinity. No impairment to the Park's resources would occur.

Comparison of Traffic Increases For Each Alternative

	No Action Alternative									
	Natchez Trace Detour					Natchez Trace Detour Tennessee Highway 13 Detour				
	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Total For ALL Detours Estimated Vehicles Per Day
Road:	0	4160	0%	0	4160	0%	0	4160	0%	4160
Alabama Highway 20	0	1230	0%	0	1230	0%	0	1230	0%	1230
Alabama Highway 157	0	270	0%	0	270	0%	0	270	0%	270
Lauderdale CR 5	0	300	0%	0	300	0%	0	300	0%	300
Lauderdale CR 10	0	150	0%	0	150	0%	0	150	0%	150
Lauderdale CR 85	0	960	0%	0	960	0%	0	960	0%	960
Natchez Trace Parkway	0	3150	0%	0	3150	0%	0	3150	0%	3150
Railroad Bed-Iron City Road	0	400	0%	0	400	0%	0	400	0%	400
Striklin Grocery Road	0	2260	0%	0	2260	0%	0	2260	0%	2260
TN Highway 13	0			0			0			
	Build Alternative A									
	Natchez Trace Detour					Natchez Trace Detour Tennessee Highway 13 Detour				
	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Total For ALL Detours Estimated Vehicles Per Day
Road:	0	4160	0%	0	4160	0%	0	4160	0%	4160
Alabama Highway 20	0	1230	0%	0	1230	0%	0	1230	0%	1230
Alabama Highway 157	0	270	0%	0	270	0%	0	270	0%	270
Lauderdale CR 5	0	300	0%	0	300	0%	0	300	0%	300
Lauderdale CR 10	0	150	0%	0	150	0%	0	150	0%	150
Lauderdale CR 85	0	960	0%	0	960	0%	0	960	0%	960
Natchez Trace Parkway	0	3150	0%	0	3150	0%	0	3150	0%	3150
Railroad Bed-Iron City Road	960	1360	240%	960	1360	240%	3220	3620	805%	3620
Striklin Grocery Road	0	2260	0%	0	2260	0%	0	2260	0%	2260
TN Highway 13	0			0			0			
	Build Alternative B									
	Natchez Trace Detour					Natchez Trace Detour County Road 85 Detour				
	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Additional Vehicles Per Day	Estimated Vehicles Per Day	% Traffic Increase	Total For ALL Detours Estimated Vehicles Per Day
Road:	960	5120	23%	960	5120	23%	960	5120	23%	5120
Alabama Highway 20	0	1230	0%	150	1380	12%	0	1230	0%	1380
Alabama Highway 157	960	1230	356%	1110	1380	411%	960	1230	356%	1380
Lauderdale CR 5	960	1260	320%	1110	1410	370%	960	1260	320%	1410
Lauderdale CR 10	0	150	0%	0	150	0%	0	150	0%	150
Lauderdale CR 85	0	960	0%	0	960	0%	0	960	0%	960
Natchez Trace Parkway	0	3150	0%	0	3150	0%	0	3150	0%	3150
Railroad Bed-Iron City Road	0	400	0%	0	400	0%	0	400	0%	400
Striklin Grocery Road	0	2260	0%	0	2260	0%	0	2260	0%	2260
TN Highway 13	0			0			0			

Comparison of Impacts

The following chart summarizes and compares the likely results of implementing the No Action Alternative and each of the Build Alternatives as they relate to the environment.

Factor	No Action Alternative	Alternative A	Alternative B (Preferred Alternative)
Vegetation	No change from the existing condition is anticipated.	5.56 acres would need to be removed to construct the detour roads.	2 acres would need to be removed to construct the Highway 13 detour road.
Protected Species	Continued spalling and seepage of efflorescence may have adverse impacts.	Placing the detour bridges adjacent to the existing bridges would increase the likelihood of impact to the protected aquatic species.	Detouring traffic on local routes away from the protected aquatic species would lessen the likelihood of impacts to those species.
Birds, Fish & Wildlife	No change from the existing condition is anticipated.	A temporary 5.56-acre reduction in habitat during construction. Birds, Fish and Wildlife may flee the area temporarily during construction due to noise, but are expected to return to the area after the completion of construction.	A temporary 2-acre reduction in habitat during construction. Birds, Fish and Wildlife may flee the area temporarily during construction due to noise, but are expected to return to the area after the completion of construction.
Wetlands	Continued spalling and seepage of efflorescence may have adverse impacts.	Approximately 0.08 acres of Cowardin wetlands would be impacted within which 0.06 acres of Corps jurisdictional wetlands would be permanently impacted.	Approximately 0.08 acres of Cowardin wetlands would be impacted within which 0.06 acres of Corps jurisdictional wetlands would be permanently impacted.
Air Quality	No change from the existing condition is anticipated	Minor temporary impacts are anticipated during construction.	Minor temporary impacts are anticipated during construction.
Hydrology	Lindsey Creek would continue to erode the soils beside and underneath the existing bridge abutment.	No change from the existing conditions is anticipated.	No change from the existing conditions is anticipated.

Factor	No Action Alternative	Alternative A	Alternative B (Preferred Alternative)
Water Quality	Spalling concrete would continue to fall into both Threet and Lindsey Creek.	Potential increases in turbidity, sedimentation deposits, and flow during storms in Lindsey, Threet and Cypress Creeks during construction.	Potential small increases in turbidity, sedimentation deposits, and flow during storms in Lindsey, Threet and Cypress Creeks during construction.
Soils/Geology	Soils would continue to be eroded at the north abutment of the Lindsey Creek bridge.	Approximately 11,000 yd ³ of embankment would be required for detour roads and permanent bridge construction.	Approximately 120 yd ³ of embankment would be required for detour roads and permanent bridge construction.
Noise	No change from the existing conditions is anticipated.	Minor temporary impacts during construction are anticipated.	Moderate temporary impacts along local roads are anticipated.
Floodplains	The bridge over Lindsey Creek would continue to constrict the movement of floodwaters.	Lindsey Creek and Threet Creek floodplains constrained to 120' at temporary bridges and detour roads during construction. Lindsey Creek Floodplain constriction at the current Parkway bridge reduced by 40 feet. The Lindsey Creek Bridge freeboard for 50-year-flood reduced to 0.82 feet. The Threet Creek Bridge freeboard for 50-year-flood increased to 0.87 feet. Increase of 0.43 feet in 100-year-flood backwater at Threet Creek Bridge.	Lindsey Creek Floodplain constriction at the current Parkway bridge reduced by 40 feet. The Lindsey Creek Bridge freeboard for 50-year-flood reduced to 0.82 feet. The Threet Creek Bridge freeboard for 50-year-flood increased to 0.87 feet. Increase of 0.43 feet in 100-year-flood backwater at Threet Creek Bridge.
Historic & Cultural Resources	No change from existing conditions is expected.	Per TN Historical Commission, no historic or cultural resources are anticipated to be affected within the proposed project area. AL Historical Commission identified no affected resources.	Per TN Historical Commission, no historic or cultural resources are anticipated to be affected within the proposed project area. AL Historical Commission identified no affected resources.

Factor	No Action Alternative	Alternative A	Alternative B (Preferred Alternative)
Visitor Use and Recreation	As the bridges continue to deteriorate, weight restrictions would be placed on those areas, which would limit recreational traffic along the Parkway.	Minor impacts would occur due to closure of a section of Parkway during bridge replacements. A traffic control plan for closures and detours would be implemented during construction.	Minor impacts would occur due to detours on the Parkway during bridge replacements. If designated detours are not properly labeled, may cause driver confusion. A traffic control plan for closures and detours would be implemented during construction.
Land Use	No change from the existing condition is anticipated.	Temporary loss of green space for detour construction. No permanent impacts are anticipated.	Temporary loss of green space for detour construction. No permanent impacts are anticipated.
Local Roads and Traffic Conditions	No change from the existing condition is anticipated.	Minor temporary impacts would occur due to closure of Parkway during construction. Traffic flow is expected to return to normal once construction is completed.	Moderate temporary impacts would occur due to detours on the local roads along the parkway during construction. Traffic flow is expected to return to normal once construction is completed.
Socio-Economics	No change from the existing condition is anticipated.	Temporary economic opportunities would be created by construction. Alternative Detour Costs Estimated at \$430,000.	Temporary economic opportunities would be created by construction. Diverting traffic along local roads may create additional economic benefits. Alternative Detour Costs Estimated at \$625,000 if Asphalt Overlay on Local Roads Required, \$225,000 if Overlay Not Required.
Cumulative Impacts	No change from the existing condition is anticipated.	The alternative combined with the resurfacing projects would not cause significant adverse impacts in the project vicinity.	The alternative combined with the resurfacing projects would not cause significant adverse impacts in the project vicinity.

G. ***Irreversible and Irretrievable Commitment of Resources***

Approximately \$4,000,000 in Federal Lands Highway Program funds has been set aside for planning, design, and construction. Should design and construction of either of the Build Alternatives occur, these resources would be consumed.

H. ***Unavoidable Adverse Environmental Effects***

No significant adverse environmental effects are anticipated. The area cleared for grading, detour road and drainage work would be stabilized and restored with native vegetation. The improvement to local road network outweighs the adverse impacts.

I. ***Local Short-Term Uses and Maintenance/Enhancement of Long-Term Productivity***

Short-term and long-term maintenance costs on the Parkway are unaffected by the proposed action. There would be a minor decrease in maintenance costs for the bridges in the short-term.

J. ***Natural or Depletable Resources***

The use of some natural resources would be required under both Alternative A and B in order to complete construction operations, however no natural resources would be depleted. The quantity of materials in comparison to those readily available would be negligible.

K. ***Energy Requirements and Conservation***

Neither Alternative A nor Alternative B would have a significant impact on energy resources or conservation issues.

IV. ENVIRONMENTAL COMMITMENTS AND MITIGATION

In order to minimize the environmental impacts associated with the selected alternative, the following measures are recommended for implementation:

- An Erosion and Sediment Control Plan has been prepared and would be included in the final construction plans.
- The final plans would minimize the clearing of woody and turf vegetation, especially near the banks of Lindsey Creek and Threet Creek.
- The final plans are to include the traffic control, closure, and detour plan for the Parkway.
- If archeological artifacts are encountered during excavation operations, construction should be halted immediately. The Southeast Archeological Center, the Superintendent of the Natchez Trace Parkway, and the Tennessee Historical Commission or the Alabama Historical Commission would be notified immediately.
- The final construction plans would include directions and specifications to the contractor for re-vegetating disturbed areas with non-invasive native plant species.

A. *Threatened or Endangered Species*

In order to be exempt for the prohibitions of section 9 of the Endangered Species Act, the FHWA must comply with the following terms and conditions. These terms and conditions are non-discretionary. A complete detailing of the items listed below as they appear in the Biological Opinion written to conclude formal consultation between the U.S. Fish and Wildlife Service and FHWA on behalf of the NPS can be found in Appendix A.

1. No construction activity should take place in any inundated portion of the stream during the breeding season of slackwater darter. This takes place between January 1 and May 31.
2. Natural flow of the stream should be maintained as much as possible upstream and downstream from the footprint of the project. If water within the cofferdams is pumped out, mesh screens should be installed and kept free of debris. Pumps should be set up as far away from the stream as possible and run at the minimum speed. Water pumped out of the cofferdams should be directed to an upland area and into a sediment filter or onto a well-vegetated floodplain or riparian area. Prior to pumping all waters out of the cofferdam all fish species will be removed and relocated upstream.
3. Trained personnel should be present during all in-channel and/or over-channel demolition or construction activities.
4. If the slackwater darter is found within the project footprint, it should be documented and relocated.
5. Best Management Practices should be utilized at all times. These practices include, but are not limited to, deployment of silt/sediment curtains, construction and maintenance of sediment fences, hay bales and sodding to reduce erosion and siltation of aquatic habitats. A detailed sediment control plan should be provided to FWS for their review and approval before work begins.

6. Any disturbed areas should be restored to original contours and re-vegetated with indigenous species. Stream substrates and stream meander at the bridge site should remain as close to current conditions as practicable.
7. At no time will vehicle refueling or maintenance take place within 100 feet of aquatic habitats. If equipment will be parked or stage within 100 feet of an aquatic habitat, drip pans and emergency spill equipment will be on hand for use and clean-up. A Spill Prevention, Containment and Countermeasure Plan should be developed.

Additional mitigation measures include:

1. Debris shields would be used to contain the replacement of the bridge, including the demolition and construction of the new bridge to reduce the amount of debris falling into the creek.
2. Mechanized equipment is to be limited or prevented from entering the Lindsey and Threet Creek channels to the greatest extent practicable between June 1 and December 31.

B. *Cultural Resources*

If any archaeological remains or historical sites are discovered during construction of this project, all construction in the vicinity is to cease and the Cultural Resources Director for the Natchez Trace Parkway is to be contacted immediately.

If any material is to be excavated from any material source outside the construction limits, other than commercially operated sites, before work begins certification from the State Historic Preservation Officer stating that a cultural resources survey has been performed at the proposed site and that no significant cultural resources exist in the area to be disturbed.

C. *Visitor Use and Experience*

Construction would be staged according to a schedule that would impact visitors as little as possible during peak visitation periods. To minimize disturbance, construction of the Threet Creek, Lindsey Creek and Lauderdale County Road 85 bridges (utilizing the same detour route under the preferred alternative) is not to last more than two years from the Notice to Proceed. The Threet Creek, Lindsey Creek and Tennessee Highway 13 bridges are not to remain under construction for longer than one year from the breaking of ground.

VIII. COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

The Natchez Trace Parkway currently operates under the direction of the approved 1987 General Management Plan/Environmental Assessment for Natchez Trace Parkway (GMP/EA). Management objectives identified within the GMP direct the maintenance and upgrading of roadways and associated bridges in order to provide for a positive visitor experience and to ensure effective Parkway operations. However, construction and maintenance must be compatible with and sensitive to the resources for which the Parkway was created.

The 1982 Surface Transportation Assistance Act established the Federal Lands Highway Program (FLHP), which distributes funds from Federal Motor Fuel Tax revenues for the construction and rehabilitation of Federal roads, including roads in units of the National Park System. The NPS has developed a plan for a long-term program of road improvement and maintenance with the intent to preserve and extend the surface life of principal park roads, and improve their safety. The FHWA coordinates the design, construction, and maintenance of these roads in cooperation with the NPS. As authorized by the Act, the FHWA is designing the proposed bridges, and construction would occur using 2003 FLHP funds.

The proposed action to replace the bridges at Highway 13, County Road 85, Threet Creek, and Lindsey Creek is entirely consistent with the Natchez Trace Parkway management documents.

A. *National Environmental Policy Act (NEPA)*

This Environmental Assessment (EA) and resultant decision documents provide disclosure of the decision-making process and potential environmental consequences of the alternatives. This EA will be available for a 30-day public review and comment period, after which the NPS will decide if the impacts of the proposed action are significant enough to prepare an Environmental Impact Statement (EIS). If it is determined that an EIS is not required, the NPS's Southeast Regional Director will sign a Finding of No Significant Impact (FONSI). In that case, this EA and the public notification of the FONSI would conclude the NEPA compliance for this project.

B. *Endangered Species Act of 1973*

Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in furtherance of the purposes of the Act by carrying out programs for the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the U. S. Fish and Wildlife Service to ensure that any actions authorized, funded, and/or carried out by the agency do not jeopardize the continued existence of any listed species or critical habitat.

Informal consultation pursuant to the Endangered Species Act was initiated on June 13, 2003, when a letter was sent to the U. S. Fish and Wildlife Service inquiring whether any Federal or state listed or candidate threatened or endangered plant or animal species or any other special status plant or animal species occur in the Project area. The U.S. Fish and Wildlife Service Office in Tennessee responded on July 17, 2003, with the determination that the proposed action will not likely adversely affect any Federally listed or proposed species in Tennessee and that "the requirements of Section 7 of the Endangered Species Act of 1973, as amended, are fulfilled." The U.S. Fish and Wildlife Service Office in Alabama responded on July 22, 2003, with the

determination that "any federal regulated action that adversely impacts the Federally threatened slackwater darter or its designated Critical Habitat will require formal consultation in accordance with Section 7 of the Endangered Species Act of 1973."

On May 4, 2005, a letter was sent to the FWS-Daphne Field Office requesting formal consultation for the replacement of bridges on the Natchez Trace Parkway over Threet and Lindsey Creek under the preferred alternative, Alternative B. The letter stated that the proposed project "may affect, and is likely to adversely affect" the slackwater darter," and "may affect, but is not likely to adversely affect" the critical habitat of the slackwater darter

On September 15, 2005 the FWS-Daphne Field Office transmitted the FWS's biological opinion. The biological opinion included an incidental take statement, reasonable and prudent measures, terms and conditions, and conservation recommendations. The receipt of this biological opinion concluded formal consultation.

C. ***Clean Water Act of 1972, Section 404***

This Act seeks to restore and maintain the chemical, physical, and biological integrity of the Nation's water by a variety of means. Section 404 of the Act directs wetlands protection by authorizing the Army Corps of Engineers to prohibit or regulate, through a permit process, discharge of dredged or fill material into the waters of the United States, including wetlands. Actions described in this document comply with the requirements of Section 404 of the Clean Water Act and all other applicable federal, state, and local agencies.

Water quality in the project area would be protected by the implementation of erosion and sediment controls, such as silt fencing, straw bales, and sediment traps, as needed. Reseeding and mulching would quickly stabilize disturbed areas. The Federal Highway Administration (FHWA) would prepare the *Erosion and Sediment Control Plan* for inclusion in the construction plans.

D. ***National Historic Preservation Act of 1966***

This Act requires Federal agencies to establish programs for evaluating and nominating properties to the National Register of Historic Places, and to consider the effects of undertaking a proposal on listed or eligible properties. Section 106 mandates that Federal agencies take into account the effects of their actions on properties listed or eligible and to give the Advisory Council on Historic Preservation a reasonable opportunity to comment on said actions, if appropriate.

Although the NPS has a programmatic agreement with the Tennessee State Historic Preservation Officer (SHPO), the NPS consulted with their Office to specify the level of disturbance with the proposed action. In a letter dated April 21, 2001, SHPO determined that the proposed action, in accordance with the 36 CFR 800.4 and 800.5 regarding the identification of historic properties and assessment, would not have any properties listed in or eligible for listing in the National Register of Historic Places. The Alabama SHPO provided no notice that listed properties would be affected.

All ground-disturbing activities associated with the Project would be reviewed for archeological impacts. Completion of compliance with Section 106 of the National Historic Preservation Act would be carried out in accordance with the

National Park Service's Cultural Resources Management Guidelines (RM-28), and appropriate documentation and consultations undertaken.

Although no adverse effects to cultural resources are anticipated with the implementation of the proposed action, measures would be taken to ensure that adequate protection and consideration of cultural resources are carried out throughout the design and construction phases of the Project.

E. ***The National Park Service Organic Act of August 25, 1916***

This Act states that the fundamental purpose of National Parks is "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

All proposed build alternatives include measures to ensure that adequate protection is provided to conserve the scenery and natural resources of the Natchez Trace Parkway. Both build alternatives are consistent with this Act since they seek to provide safe access to the park for the public.

F. ***Fish and Wildlife Coordination Act***

The Act of March 10, 1934, authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife.

In addition, this Act authorizes the preparation of plans to protect wildlife resources, the completion of wildlife surveys on Public Lands, and the acceptance by the Federal agencies of funds or lands for related purposes, provided that land donations received the consent of the State in which they are located.

The amendments enacted in 1946 require consultation with the Fish and Wildlife Service and the fish and wildlife agencies of States where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted... or otherwise controlled or modified" by any agency under a Federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources."

The 1958 amendments added provisions to recognize the vital contribution of wildlife resources to the Nation and to require equal consideration and coordination of wildlife conservation with other water resources development of programs, and authorized the Secretary of Interior to provide public fishing areas and accept donations of lands and funds.

The amendments also titled the law as the Fish and Wildlife Coordination Act and expanded the instances in which diversions or modifications to water bodies would require consultation with the Fish and Wildlife Service. These amendments permitted lands valuable to the Migratory Bird Management Program to be made available to the State agency exercising control over wildlife resources.

IX. LIST OF PREPARERS AND REVIEWERS

The following individuals contributed to the development of this document:

Federal Highway Administration

Jack Van Dop, Environmental Compliance Specialist
Brigitte A. Mandel, Environmental Compliance Engineer
Lisa Thaxton, Environmental Protection Specialist
Satvinder S. Sandhu, Environmental Compliance Engineer
Robert Morris, Project Manager
Hratch Pakhchanian, Structural Engineer
Abbi Ginsburg, Hydraulics Engineer
Ken Atkins, Construction Operations Engineer
Jatinder Bains, Highway Engineer
Marcus Miller, Structural Engineer, Bridge Inspections

Natchez Trace Parkway

Wendell A. Simpson, Superintendent
D. Craig Stubblefield, Chief of Resource Management
Christina Miller, Cultural Resources Management Specialist
Bill Whitworth, Natural Resources Management Specialist

National Park Service

Robert Felker, Landscape Architect, Denver Service Center
Jami Hammond, NEPA Specialist, Southeast Region

X. COORDINATION

As required by NPS policies and planning documents, it is the Park's objective to work with State, Federal, and local governmental and private organizations to ensure that the Park and its programs are coordinated with theirs, and are supportive of their objectives, as far as proper management of the Park permits, and that their programs are similarly supportive of Park programs.

Consultation and coordination have occurred with numerous agencies for the development of the alternatives and preparation of the EA. The following organizations and agencies were contacted for information, which assisted in identifying important issues, developing alternatives, and analyzing impacts:

U. S. Fish and Wildlife Service

U. S. Army Corps of Engineers

Tennessee Historical Commission

Alabama Historical Commission

Tennessee Department of Transportation

Lauderdale County, Alabama

Wayne County, Tennessee

In order to give the public and all interested parties a chance to review the EA, it will be noticed for public comments for a minimum of 30 days through local newspapers. During the 30-day period, the EA will be available for review at the Natchez Trace Parkway Headquarters located at the Natchez Trace Parkway, Tupelo, MS 31217-4399. Copies of the EA will also be sent to applicable Federal, State, and local agencies for review and comment.

XI. REFERENCES

Bridge Inspection and Management Program. Bridge Inspection Report: Natchez Trace Parkway Over County Road. Federal Highway Administration, 2003.

Bridge Inspection and Management Program. Bridge Inspection Report: Lindsey Creek Bridge. Natchez Trace Parkway Over Lindsey Creek. Federal Highway Administration, 2003.

Bridge Inspection and Management Program. Bridge Inspection Report: TN Highway 13. Natchez Trace Parkway Over TN Highway 13. Federal Highway Administration, 2003.

Bridge Inspection and Management Program. Bridge Inspection Report: Threet Creek Bridge. Natchez Trace Parkway Over Threet Creek. Federal Highway Administration, 2003.

Dial Cordy and Associates, Inc. Biological Assessment: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL. Dial Cordy and Associates, 2003.

Dial Cordy and Associates, Inc. Wetland Delineation Report: Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL. Dial Cordy and Associates, 2003.

Eastern Federal Lands Highway Division. Geotechnical Report No. 05-02. Federal Highway Administration, 2003.

National Park Service. Natchez Trace Parkway General Management Plan. U.S. Department of the Interior, 1987.

XII. APPENDIX A – Documentation of Agency Consultation

- FHWA letter dated June 13, 2003 to the U.S. Fish and Wildlife Service requesting concurrence on our determination that the Build Alternative with Adjacent Detours is not likely to effect any Federally listed threatened or endangered species, and that the proposed action is in compliance with the Endangered Species Act of 1973.
- Letter from the U.S. Fish and Wildlife Service in Tennessee dated July 17, 2003, stating compliance with Section 7 of the Endangered Species Act.
- Letter from the U.S. Fish and Wildlife Service in Alabama dated July 22, 2003, stating compliance with Section 7 of the Endangered Species Act would require formal consultation since Lindsey Creek is designated as a Critical Habitat for the federally threatened slackwater darter.
- Letter to the U.S. Fish and Wildlife Service in Alabama dated May 4, 2005 initiating formal consultation.
- Biological Opinion from the U.S. Fish and Wildlife Service in Alabama concluding formal consultation, which includes the incidental take statement, reasonable and prudent measures, and terms and conditions.
- Letter from the Park Service and enclosures of letters sent and received from Tennessee SHPO and Alabama SHPO. Letter from Tennessee Historical Commission dated April 25, 2001, stating that it is their determination that “the project as currently proposed will not affect any property that is eligible for listing in the National Register of Historic Places” with the proposed action.
- Letters to the Alabama Historical Commission, dated April 20, 2001 and May 6, 2003, were sent by the Park Service requesting comments on the projects; however, the Alabama SHPO made no comments.



U. S. Department
of Transportation

Federal Highway
Administration

Eastern Federal Lands
Highway Division

21400 Ridgeway Circle
Sterling, VA 20166-6511

JUN 13 2003

Refer to: HFPP-15

Mr. Larry E. Goldman
Field Supervisor
U.S. Fish and Wildlife Service
1208-B Main Street
P.O. Drawer 1190
Daphne, AL 36526

Dear Mr. Goldman:

In cooperation with the National Park Service, the Eastern Federal Lands Highway Division, of the Federal Highway Administration, is currently preparing an environmental assessment for the replacement of four bridges along the Natchez Trace Parkway at Highway 13 in Wayne County, Tennessee, and at County Road 85, Threet Creek, and Lindsey Creek in Lauderdale County, Alabama. This project has been designated Project PRA-NATR 1J15, 2A15.

The project consists of replacing the bridges at the aforementioned locations due to structural deficiencies caused by reactive aggregates in the concrete. It is anticipated that short, temporary detour roads will be required immediately adjacent to the existing bridges to maintain traffic during demolition and construction operations. The temporary detour roads over Threet and Lindsey Creeks will propose installation of culverts in the two streams to carry base stream flow under the detour road. Construction equipment may need to occasionally ford the creeks during the demolition and construction operations. Both the existing and proposed bridges have (will have) support piers located in the stream channel.

An erosion and sediment control plan will be prepared for this project and implemented during construction. Sediment control measures will be installed and maintained during the life of construction activities. All disturbed areas will be stabilized with permanent vegetative cover prior to the removal of sediment control measures. The plans will include restrictions on temporary construction access including temporary stream crossings and associated fill placement in these streams. The work is proposed to take place during periods of seasonal low flow. Excavation and backfill will take place under dry conditions.



At the present time we are soliciting comments and recommendations from various agencies to identify potential impacts of the proposed action on the environment and measures that may mitigate adverse impacts. Your comments and information will be utilized to prepare the natural resource surveys and preliminary design plans.

We have enclosed a vicinity map (U.S. Geological Survey base) for the referenced project. Please provide any comments you may have regarding the proposed project. Questions concerning this matter should be directed to Mr. Jack Van Dop, Environmental Compliance Specialist, at 703-404-6282.

Sincerely yours,

A handwritten signature in dark ink, appearing to read 'Alan T. Teikari', with a stylized flourish at the end.

Alan T. Teikari
Planning & Programming Engineer

Enclosure

cc:

Mr. Jerry Belson, Regional Director, SER, National Park Service, Atlanta, GA
Mr. Wendell Simpson, Superintendent, NATR, National Park Service, Tupelo, MS
Mr. Robert Felker, Field Representative, DSC, National Park Service, Tupelo, MS
Dr. Lee A. Barclay, Field supervisor, Fish & Wildlife Service, Cookeville, TN



United States Department of the Interior

FISH AND WILDLIFE SERVICE

446 Neal Street
Cookeville, TN 38501

July 17, 2003

Mr. Alan T. Teikari
Planning and Program Engineer
Federal Highway Administration
Eastern Federal Lands Highway Division
21400 Ridgetop Circle
Sterling, Virginia 20166-6511

Re: FWS #03-1449

Dear Mr. Teikari:

Thank you for your letter and enclosures of June 13, 2003, regarding the replacement of four bridges along the Natchez Trace Parkway at Highway 13 in Wayne County, Tennessee, and at County Road 85, Threet Creek, and Lindsay Creek in Lauderdale County, Alabama. Comments concerning the three bridges located in Alabama will be supplied by the our Ecological Services Office in Daphne, Alabama. Fish and Wildlife Service (Service) personnel from the Ecological Services Office in Cookeville, Tennessee, have reviewed the information submitted concerning the bridge at Highway 13 in Wayne County, Tennessee, and we offer the following comments.

Information available to the Service does not indicate that wetlands exist in the vicinity of the proposed project. However, our wetland determination has been made in the absence of a field inspection and does not constitute a wetland delineation for the purposes of Section 404 of the Clean Water Act. The Corps of Engineers should be contacted if other evidence, particularly that obtained during an on-site inspection, indicates the potential presence of wetlands.

Endangered species collection records available to the Service do not indicate that federally listed or proposed endangered or threatened species occur within the impact area of the project. We note, however, that collection records available to the Service may not be all-inclusive. Our data base is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality. However, based on the best information available at this time, we believe that the requirements of Section 7 of the Endangered Species Act of 1973, as amended, are fulfilled. Obligations under Section 7 of the Act must be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously

considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Thank you for the opportunity to comment on this action. If you have any questions regarding the information which we have provided, please contact Robbie Sykes of my staff at 931/528-6481, extension 209.

Sincerely,

A handwritten signature in blue ink, reading "Lee A. Barclay". The signature is fluid and cursive, with the first name "Lee" and last name "Barclay" clearly distinguishable.

Lee A. Barclay, Ph.D.
Field Supervisor



United States Department of the Interior

FISH AND WILDLIFE SERVICE
P. O. Drawer 1190
Daphne, Alabama 36526

IN REPLY REFER TO:
03-1097a

July 22, 2003

Mr. Alan T. Teikari
Federal Highway Administration, Eastern Federal Lands
21400 Ridgetop Circle
Sterling, VA 20166-6511

Dear Mr. Teikari

We are responding to your letter, dated June 13, 2003, advising us that the National Park Service is beginning preparation of an environmental assessment for replacing four bridges (Project PRA-NATR 1J15, 2A15) along the Natchez Trace Parkway in Wayne County, Tennessee and Lauderdale County, Alabama. We have reviewed the information and are providing the following comments in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. et seq.) and the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). These comments pertain only to that segment of the project to be constructed within Alabama. Our Cookeville, Tennessee office will provide information about the Tennessee segment.

The Cypress Creek watershed, of which Lindsey and Threet Creeks are a part, contains one of the last strongholds of the Federally threatened slackwater darter (*Etheostoma boschungii*). Lindsey Creek in Lauderdale County is also listed as Critical Habitat for this species. Any Federal regulated action that adversely impacts the Federally threatened slackwater darter or its designated Critical Habitat will require formal consultation in accordance with section 7 of the Endangered Species Act of 1973.

At a minimum, the environmental assessment should address the Critical Habitat that may be affected by the proposal. A complete survey for the slackwater darter and its Critical Habitat in the project area should be performed by a biologist familiar with and permitted to work with this species. If you have any questions or need additional information, please contact Mr. Bruce Porter at (251) 441-5864 or email bruce_porter@fws.gov. Please refer to the reference number located at the top of this letter.

Sincerely,

Larry E. Goldman
Field Supervisor

cc Dr. Lee Barclay, USFWS Field Supervisor, Cookeville, TN

04/207-PC-6



United States Department of the Interior

FISH AND WILDLIFE SERVICE

1208-B Main Street
Daphne, Alabama 36526

IN REPLY REFER TO:

04-0605b

November 30, 2004

Mr. Alan T. Teikari
Federal Highway Administration, Eastern Federal Lands
21400 Ridgeway Circle
Sterling, VA 20166-6511

Dear Mr. Teikari:

We are responding to your letter, dated August 2, 2004, submitting amendments to the alternatives for replacing three bridges (Project PRA-NATR 1J15, 2A15) along the Natchez Trace Parkway in Lauderdale County, Alabama. You have also requested our concurrence for a "not likely to adversely affect" determination for the slackwater darter (*Etheostoma boschungii*), a federally listed species. We have reviewed the information and are providing the following comments in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. et seq.) and the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The Build Alternative A requires the use of temporary bridges during replacement bridge construction. We are concerned that potential exists for causing damage to the slackwater darter and its Critical Habitat from the installation and removal of these temporary and permanent structures. You indicated that a construction schedule from June 1 to December 31 would protect the darter from harm. The slackwater darter inhabits Lindsey Creek year-round but only uses the critical spawning habitat from January through May. Any alteration of the Critical Habitat described as the areas adjacent to the creek and flooded by normal rainfall from January thru May would be considered a "take" under provisions of the ESA, as would direct impacts to the darter. However, if all three creeks and associated Critical Habitat could be spanned with a bridging structure and if no equipment is allowed in the creeks and Critical Habitat, the Service could concur with a "not likely to adversely affect" determination. At this point, the Service cannot make a determination on total impacts associated with Build Alternative B because of the lack of information. Your letter made reference to detours around the project sites using Alabama Highway 20, Lauderdale County Road 5 and 10 as detour corridors. Obviously, the use of existing roadways as detours versus temporary bridging structures is the least environmentally intrusive build alternative, but more information is needed on Build Alternative B to make an assessment. If either Build A or B Alternatives will impact the creeks or Critical Habitat with fill or siltation further consultation should be requested by the Federal Highway Administration or the National Park Service.

We look forward to review of the Environmental Assessment and working with your agency in reaching an acceptable resolution to all concerned. Perhaps an agency meeting on-site would be

www.fws.gov

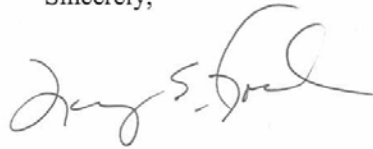
PHONE: 251-441-5181



FAX: 251-441-6222

prudent before a contract is awarded and may even answer all the questions we have at this point. If you have any questions or need additional information, please contact Mr. Bruce Porter at (251) 441-5864. Please refer to reference number 04-0605.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry E. Goldman". The signature is fluid and cursive, with the first name "Larry" being more prominent than the last name "Goldman".

Larry E. Goldman
Field Supervisor

cc: Dr. Lee Barclay, USFWS Field Supervisor, Cookeville, TN



U. S. Department
of Transportation

Federal Highway
Administration

Eastern Federal Lands
Highway Division

21400 Ridgeway Circle
Sterling, VA 20166-6511

MAY 4 2005

Refer to: HFPP-15

Mr. Larry E. Goldman
Field Supervisor
U. S. Fish and Wildlife Service
Daphne ES Field Office
1208-B Main Street
Daphne, AL 36526

Subject: PRA-NATR 1J15, 2A15, Natchez Trace Parkway

Dear Mr. Goldman:

In cooperation with the National Park Service (NPS), the Eastern Federal Lands Highway Division, of the Federal Highway Administration (FHWA), is requesting a formal consultation for the replacement of two bridges along the Natchez Trace Parkway at Threet Creek and Lindsey Creek in Lauderdale County, Alabama. The project also includes two other bridges: Highway 13 in Wayne County, Tennessee, and at County Road 85 in Lauderdale County, Alabama, that cross over roadways. The replacement of these bridges will have no effect on any federally-listed species; therefore, they are not included as part of the formal consultation.

The purpose for the project is to maintain safe access to the historic Natchez Trace along the Natchez Trace Parkway. This project consists of replacing the bridges at the aforementioned locations due to structural deficiencies caused by reactive aggregates in the concrete. Continuing deterioration of the concrete would eventually result in weakening of the bridge structure, requiring the NPS to impose a vehicle weight restriction on traffic using the bridges, and eventually force bridge closure.

The preferred alternative (Build Alternative Option A), as shown in the Biological Assessment, was to provide a detour by constructing temporary bridges close to the location of the existing bridges. This would require more work to be done in the streambed, causing increased turbidity, sedimentation deposits, and flow, with possible adverse effects to the critical habitat of the slackwater darter (*Etheostoma boschungii*), a federally-listed threatened species. This is no longer the preferred alternative.

The current preferred alternative (Build Alternative Option B in the Draft Environmental Assessment) is to detour traffic using local roads, eliminating the need to construct temporary bridges and reducing the impact to the slackwater darter's habitat. Mitigation measures have been created which will further reduce the impact to listed species. A copy of the detour maps is enclosed.



In August 2003, surveys were completed on Lindsey Creek and Threet Creek, verifying the presence of the slackwater darter in Lindsey Creek. Although no slackwater darters were found in Threet Creek and it is not listed as critical habitat (FR vol. 42, No. 184 – Thursday, September 22, 1977), the habitat may be suitable, so Threet Creek will be adequately protected.

A project meeting was held on January 10, 2005, with the FHWA, the NPS and the FWS attending. Concerns of the FWS included: adequate protection of Threet Creek and Lindsey Creek, use of a local road as the detour route instead of constructing temporary detours through the Creeks, containment of all silt, demolition of the bridges without debris entering the stream, minimizing the impact of construction to the stream, and building the bridges in 1 year or less. Similar concerns were stated previously in a letter dated November 30, 2004. We have taken your concerns into consideration, and the revised proposed action attempts to address these concerns. At this time, each bridge should take about 7 to 8 months to construct.

Demolition and construction methods for Lindsey Creek were revised to have the least impact possible to the Creek. Existing bridge superstructures will have debris shields constructed. The debris shields will be supported by brackets that will be anchored into the existing piers, and designed to support the dead load of the existing superstructure. In addition, the debris shields will have plywood forming to prevent any fine materials from dropping into the streams. The existing deck will be sawcut and removed in large pieces, and the existing piers and abutments will be removed down to 2 feet below the original ground surface. Sheet piles will be used as debris shields for both removing the existing substructures and the construction of new substructures. Three piers will be constructed for the new bridge, replacing the two existing piers. During the construction of the new bridge, debris shields will be in place to greatly minimize the amount of material falling into the stream.

Conservation measures have been incorporated during the design phase of the project to avoid or minimize potential impacts of the project to the slackwater darter and its critical habitat, Lindsey Creek.

- The new structure has an additional span to allow better stream flow, and the new structure spans the waterway where the existing bridge does not.
- The ground below the new structure will be graded to a more natural flowing topography.

Demolition and construction methods for Threet Creek were revised to have the least impact possible to the Creek. Existing bridge superstructures will have debris shields constructed. The debris will be supported by brackets that will be anchored into the existing piers, and designed to support the dead load of the existing superstructure. In addition, the debris shields will have plywood forming to prevent any fine materials from dropping into the streams. The existing deck will be sawcut and removed in large pieces, and the existing piers and abutments will be completely removed. Sheet piles will be used as debris shields for both removal of existing substructures and construction of new substructures. During the construction of the new bridge, debris shields will be in place to greatly minimize the amount of material falling into the stream. The ground below the new structure will accommodate the existing topography.

Conservation measures for Threet Creek:

- Sheet piles for cofferdams will only be driven once, since the new piers will be in the existing location.
- The locations of the existing and new substructures are the same, minimizing area of impact.

Conservation measures applicable to Threet and Lindsey Creek:

- Construction activity in the stream, floodplain, or seepage areas adjacent to the stream will not occur during the slackwater darter spawning season of January 1 through May 31.
- Debris shields will be used to completely contain the replacement of the bridge, including demolition and construction of the new bridge; therefore, minimal debris will fall into the stream.
- The areas of disturbance will be limited to the existing and new pier perimeters.
- Mechanized equipment will be excluded within the stream channel.

Best Management Practices will be employed to avoid or minimize potential impacts.

- An erosion and sediment control plan has been prepared for this project and will be implemented during construction. Sediment control measures will be installed and maintained during the life of construction activities.
- All disturbed areas will be stabilized with permanent vegetative cover prior to the removal of sediment control measures.
- The plans will include restrictions on temporary construction access including temporary stream crossings and associated fill placement in these streams.
- The work is proposed to take place during periods of seasonal low flow. Excavation and backfill will take place under dry conditions.

Other mitigation measures:

- Contractor selection and bidding will be performed using a two-phased procurement process, in which potential contractors will first be reviewed for their ability to perform this type of specialized work (Qualifications Stage), and secondly, if they are deemed acceptable, proposals for completing the work will be reviewed (Cost and Time Stage).
- Once construction begins on any one structure, the contractor will have a preset timeframe to complete construction or liquidated damages will be imposed.
- A FHWA Project Engineer will be located onsite for the duration of the construction project.

It has been determined that the proposed project “may affect, and is likely to adversely affect” the slackwater darter (*Etheostoma boschungii*). The area of disturbance will be limited to the immediate substructure areas and with extensive use of debris shields and sheet pile cofferdams, both bridge sites will experience minimal impacts to the stream environment. However, pile driving to place the cofferdams and subsequent dewatering of those structures has a small chance of adversely affecting the slackwater darter since they inhabit the water year-round. The

proposed action "may affect, but is not likely to adversely affect" the critical habitat of the slackwater darter. An additional pier will be placed in Lindsey Creek; however, as a result of the additional pier, the new bridge will completely span Lindsey Creek. The existing bridge abutments are currently in the creek, and removal of these will create additional habitat offsetting the impact of an additional pier in the creek.

Formal consultation begins on the receipt of the enclosed Biological Assessment. Under 50 CFR § 402.14, formal consultation concludes within 90 days after initiation, and within 45 days after concluding formal consultation, the FWS shall deliver a biological opinion to the FHWA.

The demolition plans, erosion control plans, and bridge plans for the Lindsey Creek and Threet Creek Bridges have been included. The Biological Assessment of this project was submitted on March 8, 2004; however, an additional copy is enclosed. If you have any questions, please contact Ms. Lisa Thaxton, Environmental Protection Specialist, at 571-434-1552, or Lisa.Thaxton@fhwa.dot.gov.

Sincerely yours,



Brigitte A. Mandel
Environment Compliance Specialist

Enclosures

cc:

Dr. Lee A. Barclay, Field Supervisor, Fish and Wildlife Service, Cookeville, TN

Mr. Wendell Simpson, Superintendent, Natchez Trace Parkway, National Park Service,
Tupelo, MS

Mr. Robert Felker, Field Representative, Denver Service Center, National Park Service,
Tupelo, MS

Mr. Leon Clifford, Project Manager, Denver Service Center, National Park Service, Denver, CO

Mr. Rob Hurt, Wheeler National Wildlife Refuge, Fish and Wildlife Service, Decatur, AL



United States Department of the Interior

FISH AND WILDLIFE SERVICE
1208-B Main Street
Daphne, Alabama 36526

IN REPLY REFER TO:

September 15, 2005

Ms. Brigitte A. Mandel
U. S. Department of Transportation
Federal Highway Administration
Eastern Federal Lands Highway Division
21400 Ridgetop Circle
Sterling, Virginia 20166-6511

Dear Ms. Mandel:

This document transmits the Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed removal and replacement of the Lindsey Creek bridge on the Natchez Trace Parkway, Lauderdale County, Alabama, and its effects on the threatened slackwater darter (*Etheostoma boschungii*) and its designated critical habitat under section 7 of the Endangered Species Act of 1973 (ESA), as amended, (16 United States Code [U.S.C.] 1531 et seq.).

This biological opinion is based on information provided in the biological assessment that we received on March 8, 2005; discussions held with Ms. Brigitte A. Mandel, Mr. Tom Galambus, Ms. Lisa Thaxton, and Mr. Ken Atkins of the Federal Highway Administration (FHWA); Mr. Bob Felker and Mr. Bill Whitworth of the National Park Service (NPS); an on-site meeting with some of the aforementioned agency personnel; telephone conversations and electronic mail correspondence with other Service biologists; and other sources of information. A complete administrative record of this consultation is on file in the Wheeler National Wildlife Refuge office (Wheeler NWR, 2700 Refuge Headquarters Road, Decatur, Alabama 35603; telephone 256/353-7243.).

Consultation History

The following information is a chronology of correspondence between the Service, NPS, and FHWA regarding the proposed bridge replacement projects along the Natchez Trace Parkway located in Lauderdale County, Alabama.

June 13, 2003: FHWA letter (reference no. HFPP-15) to Mr. Larry Goldman, USFWS-Daphne, Alabama Ecological Services Field Office (ESFO), and Dr. Lee Barclay, USFWS-Cookeville, Tennessee ESFO, informing the Service of their cooperation with NPS in preparing an environmental assessment (EA) for the replacement of four bridges along the Natchez Trace

PHONE: 251-441-5181



FAX: 251-441-6222

Parkway at Highway 13 in Wayne County, TN and at County Road 85, Threet Creek, and Lindsey Creek in Lauderdale County, AL

July 17, 2003: USFWS-Cookeville ESFO response letter (reference no. 03-1449) to FHWA letter dated June 13, 2003, concurring with FHWA "not likely to adversely affect" determination for the Highway 13 bridge replacement project in Wayne County, TN

July 22, 2003: USFWS-Daphne ESFO response letter (reference no. 03-1097a) to FHWA letter dated June 13, 2003, informing FHWA that Cypress Creek watershed is one of the last strongholds of the federally-threatened slackwater darter (*Etheostoma boschungii*) and Lindsey Creek is listed as critical habitat for the slackwater darter; and any federal regulated actions that may affect the slackwater darter or its designated critical habitat would require formal consultation in accordance with section 7 of the Endangered Species Act of 1973; this letter also requested FHWA to complete a survey for the slackwater darter and its critical habitat in the project area.

March 8, 2004: FHWA letter (reference no. HFPP-15) to Mr. Larry Goldman, USFWS-Daphne ESFO, and Dr. Lee Barclay, USFWS-Cookeville ESFO, requesting concurrence on "not likely to adversely affect" determination for slackwater darter; letter contained following attachments: 1) Final Biological Assessment, Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL, dated February 2004; and 2) Wetland Delineations

March 23, 2004: USFWS-Daphne ESFO responded with letter (reference no. 04-0605a) to FHWA March 8, 2004 letter with concerns for proposed temporary bridge construction adversely affecting the slackwater darter and its critical habitat; the Service recommended use of a detour route (Lauderdale County Road 5); this letter reiterated (as stated in previous correspondence, Daphne ESFO letter dated July 22, 2003) that any federal regulated action that would adversely affect the federally-threatened slackwater darter or its critical habitat would require formal consultation in accordance with section 7 of the Endangered Species Act of 1973

April 15, 2004: USFWS-Cookeville ESFO responded to FHWA March 8, 2004 letter, concurring with wetland delineations performed at State Route 13 bridge location in Wayne County, TN stating no adverse impacts to valuable wetland resources in TN; USFWS-Cookeville ESFO concurred that the proposed bridge replacement project at State Route 13 in TN would "not likely to adversely affect" federally endangered and threatened species or result in destruction or modification of designated critical habitat

August 2, 2004: FHWA letter (reference no. HFPP-15) to Mr. Larry Goldman, USFWS-Daphne ESFO, addresses comments and concerns in USFWS letter, dated March 23, 2004, particularly the Service's recommendations to consider use of alternative detour routes around the bridge replacements at Threet Creek and Lindsey Creek, Lauderdale County, AL; FHWA committed to develop another alternative, Build Alternative B, which would consider the use of detour routes (existing state and county roads in the vicinity of the project) bypassing Lindsey Creek and Threet Creek; FHWA also provided

mitigation measures to their preferred alternative, Build Alternative A, as follows: 1) construction scheduling, 2) mechanized equipment restrictions, 3) implementation of sediment and erosion control plan, 4) reducing fill area in floodplains, and 5) monitoring of construction sites; FHWA also requested USFWS concurrence on their "not likely to adversely affect" determination for the slackwater darter

September 2004: FHWA provides the Service with the Natchez Trace Parkway: Lindsey Creek, Threet Creek, County Road 85, & Highway 13 Bridge Replacement; Wayne County, TN and Lauderdale County, AL Draft Environmental Assessment

November 30, 2004: USFWS-Daphne ESFO responds with letter (reference no. 04-0605b) to FHWA August 2, 2004 letter (reference no. HFPP-15) with continued concerns for the construction and use of temporary bridge structures at Threet Creek and Lindsey Creek; the Service could not concur with FHWA "not likely to adversely affect" determination because insufficient information had been provided on the effects to the slackwater darter and its critical habitat from the different alternatives being considered for the project (e.g. temporary bridges vs. detour routes)

January 3, 2005: Mr. Rob Hurt, USFWS-Daphne ESFO/Wheeler NWR sub-office, phoned Ms. Brigitte (Azran) Mandel, FHWA, to discuss the Service's concerns with the proposed bridge replacement projects at Lindsey Creek and Threet Creek on the Natchez Trace Parkway; Mr. Hurt and Ms. Mandel discussed potential on-site meeting with all agencies represented

January 5, 2005: Electronic mail from Ms. Brigitte Mandel, FHWA, to Mr. Rob Hurt, USFWS, to confirm plans for an on-site meeting January 10, 2005 at 1:00 PM CST at Lindsey Creek bridge site, located at Mile Post 337.5 along the Natchez Trace Parkway

January 10, 2005: On-site meeting held at Lindsey Creek and Threet Creek bridge replacement sites; Those in attendance at the meeting are as follows: Mr. Tom Galambus, Ms. Brigitte Mandel, and Mr. Ken Atkins of FHWA; Bob Felker of NPS, and Mr. Rob Hurt of USFWS

January 11, 2005: Electronic mail from Mr. Rob Hurt, USFWS, to inform Mr. Bruce Porter and Mr. Larry Goldman, USFWS-Daphne ESFO, and Mr. Daniel Drennen, USFWS-Jackson, Mississippi ESFO, of the discussions held during January 10, 2005 meeting with NPS and FHWA staff at the Lindsey Creek and Threet Creek bridge replacement sites.

February 3, 2005: Mr. Bill Whitworth, NPS-Natchez Trace Parkway, phoned Mr. Rob Hurt, USFWS, to further discuss the Service's concerns and recommendations to minimize impacts to the slackwater darter and its critical habitat at both the Lindsey Creek and Threet Creek bridge replacement sites.

May 4, 2005: FHWA letter (reference no. HFPP-15) to Mr. Larry Goldman, USFWS-Daphne ESFO, requesting formal consultation for the replacement of two bridges along

the Natchez Trace Parkway at Lindsey Creek and Threet Creek, Lauderdale County, AL; This letter explained FHWA's reasoning for changing their preferred alternative.....Based on concerns the Service stated in their November 30, 2004 letter to FHWA, as well as concerns recorded in the minutes during the January 10, 2005 on-site meeting, FHWA changed their preferred alternative from construction and use of temporary bridge at these bridge sites to the preferred alternative of detouring traffic using local roads, eliminating the need to construct temporary bridges, ultimately leading to less impact to slackwater darter and its critical habitat; Enclosed with this letter were bridge demolition plans, erosion control plans, and bridge plans for the Lindsey Creek and Threet Creek bridge replacement projects, along with a copy of the February 2004 biological assessment entitled: Final Biological Assessment, Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15, Wayne County, TN and Lauderdale County, AL

May 25, 2005: USFWS-Daphne ESFO letter to Ms. Brigitte Mandel, FHWA, acknowledged receipt of FHWA May 4, 2005, request for formal consultation for the proposed bridge replacement projects on Lindsey Creek and Threet Creek; the Service stated that formal consultation for these bridge replacement projects would be completed no later than September 21, 2005.

June 15, 2005: Mr. Rob Hurt, USFWS, telephoned Ms. Brigitte Mandel, FHWA, to ask if she could provide meeting minutes from the January 10, 2005 on-site meeting. Those were provided that day via electronic mail. Mr. Hurt also requested Ms. Mandel provide any information related to potential/necessary upgrades/improvements needed to make Lauderdale County Roads 5 and 10 safe for Natchez Trace Parkway traffic.

June 16, 2005: Mr. Rob Hurt, USFWS, phoned Ms. Lisa Thaxton, FHWA, to request estimates of the area directly impacted from the demolition and construction of bridge piers within the active stream channel of Lindsey and Threet Creeks (i.e. estimate of area within the cofferdams constructed around existing bridge piers); he also requested that an updated Draft EA for this project detailing the changes FHWA and NPS made to the preferred alternative be sent to both himself with a copy to the Daphne ESFO.

June 23, 2005: Mr. Rob Hurt, USFWS, received electronic mail from Ms. Lisa Thaxton, FHWA, containing information relating to Mr. Hurt's request (June 16, 2005, phone call to Ms. Thaxton) for estimates of the area directly impacted by the proposed demolition and construction of bridge piers within the active stream channel of Lindsey and Threet Creeks

June 27, 2005: FHWA Updated Draft Environmental Assessment received by USFWS-Daphne ESFO; FHWA altered the original document's preferred alternative from the construction and use of temporary bridges at the Lindsey and Threet Creek sites to the upgrading and use of existing Lauderdale County Roads #5 and #10 as a detour route around these proposed project sites for vehicular traffic traveling on the Natchez Trace Parkway; FHWA provided the Daphne ESFO a revised engineered drawings of the bridge inspection report conducted on June 20, 2003, for Lindsey Creek bridge construction; as

well as, a digital photo log of the Lindsey Creek bridge site (photos taken: June 20, 2003).

July 7, 2005: FHWA provided Daphne ESFO a package of digital photos taken along the detour route and the proposed upgrades proposed along the detour route on Lauderdale County Roads 5 and 10.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The FHWA in cooperation with the NPS have proposed the construction of four new bridge spans on the Natchez Trace Parkway over Lindsey Creek, Threet Creek, and County Road 85 in Lauderdale County, Alabama and Tennessee Highway 13 in Wayne County, Tennessee. According to the FHWA, the existing bridges are deteriorating and rapidly losing their load-bearing capacity. NPS' project purpose is to maintain safe access for its visitors along the historic Natchez Trace Parkway without diminishing the visitor experience, NPS resources, or the interpretive value and the historic importance of the road. The existing bridges at these sites will be removed and replaced.

For the purposes of this Biological Opinion, we will only consider the activities proposed for the Lindsey Creek bridge site. Lindsey Creek is located within the federally-designated critical habitat for the slackwater darter (*Etheostoma boschungii*) and has historic and recent documentation of the darter's presence, whereas Threet Creek, although a major tributary to Cypress Creek, is not designated critical habitat. In fact, many repeated survey efforts targeting this species within Threet Creek have resulted in documenting no darters. [see Conservation Recommendations Section for further discussion on Threet Creek bridge removal and replacement].

The **ACTION AREA** for the purpose of this opinion encompasses the area directly underneath the existing bridge, including the area 100 linear feet upstream and 200 linear feet downstream of the Lindsey Creek bridge site (an area approximately 340 linear feet in stream length by 140 linear feet of stream width). The new bridge would be approximately 144 feet in length and approximately 37 feet wide, including guardrails, and would be constructed in the same alignment as the existing bridge. The existing bridge has two "bents" (e.g. bridge piers) which would be removed. The new bridge would require three bents to be constructed; one bent within Lindsey Creek and two additional bents within the floodplain of Lindsey Creek.

Cofferdams would be constructed around the two existing bents for the purposes of minimizing water quality impacts to Lindsey Creek during demolition of these bents. Cofferdams would also be constructed in the locations of the three proposed bents. These cofferdams would enable bent construction activities to be contained within the dams and not allowed to enter the stream or impact the surrounding floodplain. To minimize the amount of bridge material and rubble from entering Lindsey Creek during demolition of the existing bridge, engineering plans require debris shields to be constructed under the existing bridge deck. These debris shields are designed to catch the majority of the large,

bulky bridge materials once the bridge demolition activities are underway. The bridge deck will be sawcut and removed in large pieces. Existing bridge bents and abutments would be removed down to 2 feet below existing ground level. During demolition of the existing bridge and construction of the new bridge, sheet piles will be in place to help protect water quality conditions in Lindsey Creek.

In addition to the removal of the existing bridge, approximately 1,380 cubic feet of substrate would be excavated on the right descending bank and approximately 1,110 cubic feet on the left descending bank of Lindsey Creek. These excavations would result in increasing the width of the floodplain at the bridge crossing, thereby decreasing channel constriction at the bridge site.

Also included in the **ACTION AREA** is the proposed detour route for vehicular traffic utilizing the Natchez Trace Parkway. During construction of the proposed action, the detour route would close the Natchez Trace Parkway between Alabama Highway 20 and Lauderdale County Road 10 (CR 10) and divert all traffic to local roads. For northbound traffic, the detour route would begin at the existing interchange of Alabama Highway 20 and the Natchez Trace Parkway. The detour route would follow Alabama Highway 20 for approximately 0.27 mile to the intersection with Lauderdale County Road 5 (CR 5). The detour follows CR 5 for approximately 4.71 miles to the intersection with CR 10. The detour continues on CR 10 approximately 0.38 mile to the intersection with the Natchez Trace Parkway. Total detour length is approximately 6 miles. Southbound traffic would detour at the intersection of CR 10 and the Natchez Trace Parkway, then turn south onto to CR 5 until its intersection with Alabama Highway 20. Traffic would then be directed to the intersection of Alabama Highway 20 with the Natchez Trace Parkway.

The detour route would require minimal improvements, such as installation of guardrails and construction of road shoulders to minimize risk to Natchez Trace Parkway travelers. There are no plans to replace, upgrade, or alter existing culverts or bridges along the detour route. All upgrades to the detour route would follow applicable best management practices (i.e. installation of silt fences, hay bales/straw mulch on bare soil areas, grass planting to stabilize soil).

STATUS OF THE SPECIES/CRITICAL HABITAT

The slackwater darter was listed as a threatened species on September 9, 1977. Critical habitat was designated when the species was listed. This species was described by Wall and Williams (1974) from a series of specimens collected in Lauderdale and Madison Counties, Alabama and Lawrence County, Tennessee. The slackwater darter is currently known or has been known from the following five tributary streams to the south bend of the Tennessee River: Buffalo River, Lawrence County, Tennessee; Shoal Creek, Lawrence County, Tennessee; Flint River, Madison County, Alabama; Swan Creek, Limestone County, Alabama; and the Cypress Creek Watershed, exclusive of Little Cypress Creek, Wayne County, Tennessee and Lauderdale County, Alabama.

The critical habitat for the slackwater darter is designated in Lauderdale County, Alabama and Wayne and Lawrence Counties, Tennessee. In Lauderdale County,

Alabama, it includes all permanent and intermittent streams with flowing water from December to June which are tributary to Cypress Creek and its tributaries upstream from the junction of Burcham Creek, including Burcham Creek, but excluding Threet Creek and its tributaries, and Little Cypress Creek and its tributaries. In Wayne County, Tennessee, it includes all permanent and intermittent streams with flowing water from December to June which are tributary to Cypress and Middle Cypress Creek Drainage. In Lawrence County, Tennessee, it includes the Buffalo River and its tributaries.

This darter occurs in two distinct habitats: non-breeding habitat and breeding habitat. The non-breeding habitat consists of small to moderately large streams ranging in size from 60 cm wide and 15 cm deep to 12 m wide and up to 2 m deep. Under normal conditions, the current in these stream ranges from still to approximately 0.34 m/sec. The breeding habitat is described as seepage water in open fields and woods. The water is usually 4 to 8 cm deep and it flows slowly into an adjacent stream. Typically the breeding site is 30 to 45 cm above the adjacent stream. Therefore, the stream must periodically flood to give the darters access to the breeding ground. It is essential that any breeding habitat must be adjacent to suitable non-breeding habitat for survival of the species (U.S. Fish and Wildlife Service, 1984).

The slackwater darter migrates to breeding habitats between early January and mid February, depending on temperature and rainfall. Spawning then occurs from late February to early April. Larvae develop in the breeding habitat for 30 to 60 days and migrate to non-breeding habitat by early June.

Most specimens collected are in either the one-year or two-year class. There is evidence that few, if any, slackwater darters live more than three years. Only two fish species are known predators of the slackwater darter: green sunfish (*Lepomis cyanellus*) and pirate perch (*Aphredoderus sayanus*) (U.S. Fish and Wildlife Service, 1984).

ENVIRONMENTAL BASELINE

A survey was conducted for the slackwater darter upstream and downstream of the Lindsey Creek bridge on the Natchez Trace Parkway (Mile post 337.38) on August 28, 2003. Two slackwater darters were found during the survey in the project area, one individual was located 50 feet upstream of the bridge and the other was found 325 feet downstream of the bridge.

Current riparian conditions at this site are as follows: downstream of the Parkway the riparian area is forested with large, deciduous and evergreen trees. The right ascending bank upstream of the Parkway is forested while the left ascending bank has a wide, forested strip separating a large pasture from the creek. A small, intermittent tributary stream joins Lindsey Creek approximately 900 feet upstream of the Parkway on the left ascending bank (Dial Cordy and Associates, Inc. 2004).

A total of 15 breeding sites are known for the slackwater darter (McGregor and Shepard, 1995). Each of the isolated populations outside of the Cypress Creek Watershed is very

small and apparently suitable habitats are minimal. Boschung (1976) characterized the Cypress Creek Watershed as the stronghold for slackwater darters. This was still true in 1994. During a study throughout the range of the darter, McGregor and Shepard (1995) concluded that they were not found anywhere else with as much frequency or comparable abundance.

The primary threat to the slackwater darter is habitat degradation. The main causes are surface water contamination, including sedimentation, draining of areas with shallow groundwater and impoundment and inundation of breeding habitats. This can be caused by a variety of factors. Some examples of detrimental effects of human activities are urbanization, ditching to drain areas with shallow groundwater and degradation of ground and surface water from pesticides and waste (U.S. Fish and Wildlife Service 1991). Habitat degradation can also come from natural sources. In one case, a large beaver dam downstream of a particular breeding area may have inundated the site, making it unsuitable for slackwater darter breeding. The dam may have also prevented access to other upstream breeding habitats for an unknown period of time, effectively eliminating the darter population by limiting their ability to reproduce (Boschung 1976).

Lindsey Creek is a perennial stream and has been designated as critical habitat for the slackwater darter (42 FR 47840-47845). At the bridge crossing site, Lindsey Creek is approximately 100 feet wide and has a maximum depth of 5 feet. Substrate at this site consists of chert gravel and coarse sand with sand being predominant in the backwater and pool habitats. There appears to be very little silt in this location. In-stream morphology exhibited in the stream reach immediately upstream and downstream from the bridge site (within 300 feet either side) represents a typical riffle-run-pool habitat. The project footprint (i.e. the area immediately underneath the bridge, approximately 100 feet in stream length and 100 feet in stream width) consists of one large pool habitat adjacent to a gravel/sand point bar along the left descending stream bank. The stream banks up- and downstream of the bridge appear to be fairly stable, consisting of vegetative root masses, gravel, sand, and woody debris. Although the existing bridge span of Lindsey Creek (approximately 100 feet in length) constricts the creek during higher stream flow events, there appears to be no excessive stream bank erosion up- or downstream of the bridge.

No other federally listed endangered or threatened species are known within the action area or were incidentally observed during the Dial Cordy and Associates, Inc. survey of the site; nor were any observed during the site visit that occurred on January 10, 2005 involving representatives of NPS, FHWA, and the Service.

EFFECTS OF THE ACTION

Since Cypress Creek Watershed is considered the stronghold for a shrinking population of slackwater darters, there is potential for human activities within this watershed to cause major impacts to the population as a whole. Due to the nature of the slackwater darter and the type of proposed construction, it is reasonable to assume that adult fish could simply swim away from any direct activities such as the placement of a cofferdam

creeper (*Parthenocissus quinquefolia*) are common plants in the ground cover. The herbaceous component of the riparian area consisted of false nettle (*Boehmeria cylindrica*), orange jewelweed (*Impatiens capensis*), hooked buttercup (*Ranunculus recurvatus*), southern lady fern (*Athyrium asplenoides*), as well as other ferns (Dial Cordy and Associates, Inc. 2004). None of these species are considered the desirable breeding habitat for the slackwater darter.

Based upon the depiction of the site in Dial Cordy and Associates, Inc. survey report and the conditions observed during the January 10, 2005 inspection, there does not appear to be any suitable breeding habitat for the slackwater darter at the bridge site or in the vicinity of the footprint of the proposed project. However, the fish survey conducted on-site confirmed that suitable non-breeding habitat exists within the reach of Lindsey Creek potentially affected by the proposed bridge replacement project.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of ESA. No other such actions are anticipated in the action area defined by this biological opinion. However, the Service's Daphne, Alabama Ecological Services office recently (June 1, 2005) reviewed and replied to a road resurfacing project proposed to occur along the Natchez Trace Parkway, in the vicinity of the Lindsey Creek bridge site. FHWA proposed to resurface and rehabilitate 60 miles of the Parkway from milepost 282 to 342 in Lauderdale and Colbert Counties, Alabama. The Service concurred with FHWA's "not likely to adversely affect" determination on federally listed threatened and endangered species provided Best Management Practices are used to protect adjacent waterways.

CONCLUSIONS

After reviewing the current status of the slackwater darter (*Etheostoma boschungii*), the environmental baseline for the action area, the direct and indirect effects of the proposed removal and replacement of the Lindsey Creek bridge and cumulative effects; it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the slackwater darter (*Etheostoma boschungii*). Critical habitat for this species has been designated on Lindsey Creek, however, if the terms and conditions of the reasonable and prudent measures are implemented as described below, no destruction or adverse modification of critical habitat is anticipated.

INCIDENTAL TAKE

Sections 9 of the ESA and Federal regulation under section 4(d) of the ESA prohibit the "take" of endangered and threatened species, respectively, without species exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat

modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the FHWA so that they become binding conditions of any grant or permit issued to NPS, as appropriate, for the exemption in section 7(o)(2) to apply. The FHWA has a continuing duty to regulate the activity covered by this incidental take statement. If the FHWA (1) fails to assume and implement the terms and conditions or (2) fails to require NPS to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the FHWA or NPS must report the progress of the action and its impacts on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

The Service anticipates that incidental take of these species will be difficult to detect due to the nature of their habitats, and it is unlikely that a dead or impaired individual of this species will be found. However, the following level of take can be anticipated for the proposed project, based on the limited extent of river bottom disturbance involved with project construction. **Incidental take during all construction activities is limited to one individual or when more than 340 linear feet of stream length by 140 linear feet of stream width is directly impacted or impaired by activities associated with bridge demolition and new bridge construction.** If the take level is exceeded, all work must cease immediately and the Service's Wheeler National Wildlife Refuge Office and/or Daphne Field Office (251/441-5864) notified.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take to the slackwater darter and its designated critical habitat:

1. Minimize siltation of aquatic habitats.
2. Minimize impacts and alterations to the creek bed and surrounding floodplain.
3. Use of Best Management Practices during all stages of construction.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/ monitoring requirements. These terms and conditions are non-discretionary.

1. No construction activity should take place in any inundated portion of the stream during the breeding season of the slackwater darter. This begins in January and ends in May.
- 2a. Natural flow of the stream should be maintained as much as possible upstream and downstream from the footprint of the project. Since cofferdams are proposed for construction around existing bents and in the proposed locations for the new bents in Lindsey Creek, only non-erosive, sediment-free materials will be used in the construction of the cofferdams. These materials will be removed upon completion of bent construction and the stream returned to its natural flow pattern.
- 2b. If for some reason, water within the cofferdams must be pumped out to create a dry working environment for the construction of the new bents, our recommendations are as follows:
 - (1) install rigid plastic mesh screen (1/8" mesh size) across the opening of the intake pipe of the pump to keep fish out of the pump inlet.
 - (2) install additional screens of increasing mesh sizes around the intake pipe of pump (suggest 1/4", 1/2", and 1" mesh sizes, one to two feet apart).
 - (3) keep these screens free of debris.
 - (4) run the pump(s) at the minimum speed (lowest RPM) to lower the water level gradually.
 - (5) set up pump(s) as far away from the stream as possible to preclude contamination by unforeseen spills of oil or gas.
 - (6) to minimize sedimentation of downstream reaches, water pumped from within the cofferdams would be directed to an upland area, away from the stream channel, and either pumped into a sediment filter before water is allowed to flow back into the stream channel, or water would be pumped out and wasted onto an area of well-vegetated floodplain or riparian area.
 - (7) a backup pump should be available for deployment and operation in the event the primary pump fails (apply same procedures as listed above to minimize sedimentation to Lindsey Creek).

- 2c. Prior to pumping all the waters out of the cofferdam areas, the applicant and/or their hired contractors will be responsible for removing all fish species found within the cofferdam area. Fish will be trans-located to a pre-determined habitat upstream from the proposed project. Fish will be collected by seine or dip-net and placed into bags containing water free of silt and turbidity; and the water used will be from Lindsey Creek. The bag of fish will then be transferred in iced down coolers that maintain the thermal tolerance of the fish. Fish will be immediately taken to the habitat location upstream and released.
- 2d. Trained personnel, familiar with the slackwater darter and its designated critical habitat, should be present during all in-channel and/or over-channel demolition or construction activities (i.e. during bent and bridge removal and construction of new bent). This person(s) could be a FHWA or NPS biologist or a hired consultant. This person(s) will monitor the site to ensure that the terms and conditions of the reasonable and prudent measures are followed at all times. If at any point during the bridge demolition and construction project a slackwater darter is observed, all work must cease and the Service's Wheeler National Wildlife Refuge Office contacted immediately.
- 2e. Special conditions if slackwater darter(s) are found within the project footprint:
(1) document the finding of the darter(s) by providing notes of its (or their) condition and by taking photos of the fish;
(2) the darter(s) will be placed into separate plastic bags;
(3) these plastic bags will be filled with the same stream water and filled with oxygen (a portable oxygen tank/cylinder should be on-site at all times during construction activities);
(4) the oxygenated bag(s) containing the darter(s) will then be transferred in iced down coolers that maintain the thermal tolerance of the fish. Fish will be immediately taken to the predetermined, appropriate habitat located upstream and released.
- 2f. Modification of the existing floodplain is proposed at Lindsey Creek, therefore, sediment control measures (see Term and Condition #3a below) will be employed prior to and during the demolition of the existing bridge abutments and the excavation and removal of the existing roadway approaches. These measures will remain in-place until after the right- and left-descending stream banks at the bridge crossing site have been excavated to the desired floodplain elevation and these areas have been stabilized.
- 3a. Best Management Practices should be utilized at all times and during all stages of the bridge demolition and construction project. These practices include, but are not limited to, deployment of silt/sediment curtains, construction and maintenance of sediment fences, hay bales and sodding to reduce erosion and siltation of aquatic habitats. We request that a detailed sediment control plan be provided to this office for our review and approval before work begins.

- 3b. Any disturbed areas should be restored to original contours and re-vegetated with indigenous species. We encourage the use of biodegradable products, such as, a woven biodegradable mulch cover, to stabilize disturbed areas and control erosion. Contingency plans for restoration should be developed in the event initial efforts at bridge demolition or construction are unsuccessful or if for any reason the work stops before completion of bridge construction.
- 3c. Stream substrates and stream meander at the bridge site should remain as close to current conditions as practicable. Contour the proposed bridge abutments and associated rip-rap revetment into the current stream bank morphology and stabilize those areas of stream bank on either side of the abutments that appear to be sloughing or have the potential to slough into Lindsey Creek.
- 3d. At no time will vehicle refueling or maintenance take place within 100 feet of aquatic habitats. If equipment will be parked or staged within 100 feet of an aquatic habitat, drip pans and emergency spill equipment will be on hand for use and clean-up. FHWA or NPS should develop a Spill Prevention, Containment and Countermeasure Plan (SPCC) for minimizing environmental impacts that are a result of spills of petroleum products and other regulated substances used in construction activities.

Upon locating a dead, injured, or sick individual of an endangered or threatened species, initial notification must be made to the Fish and Wildlife Service, Division of Law Enforcement Office at (Mr. Garry Phillips, Special Agent; 3763 Highway 14, Dogwood Plaza, Millbrook, Alabama 36504; telephone 334/285-9600). Additional notification must be made to the Fish and Wildlife Service, Daphne, Alabama Ecological Services Field Office representative in Decatur, Alabama. Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help carry out recovery plans, or to develop information.

We offer the following conservation recommendations for consideration:

1. Although Threet Creek is not designated critical habitat for the darter, we recommend the applicant, FHWA, implement the reasonable and prudent measures and terms and conditions listed in this opinion to ensure the bridge demolition and construction activities at the Threet Creek site would not

negatively impact water quality conditions or future potential slackwater darter habitat within Threet Creek or the Cypress Creek watershed.

2. We recommend FHWA monitor for increased sedimentation and turbidity (or amount of suspended solid particles) in the stream at the Lindsey Creek bridge location. Sedimentation and turbidity could be monitored by use of automatic water samplers placed strategically, one upstream and one downstream from the proposed construction activities. Monitoring the effects of bridge replacement/construction projects would help the Service determine anticipated, actual sediment impacts occurring from these construction projects and help to identify shortcomings of BMPs applied/implemented on-site. Monitoring sedimentation and turbidity during this and similar stream-related projects would also provide FHWA, and other action agencies, a degree of confidence in the implementation and effectiveness of BMPs.

The following conservation recommendations are specific to NPS, FHWA's cooperating agency for the Lindsey Creek bridge replacement project:

3. The NPS should continue to collect data regarding the populations of endangered and threatened species throughout the area under its jurisdiction along the Natchez Trace Parkway. Periodic surveys should be conducted to maintain up-to-date information regarding the status of populations of those species. Data collection and surveys should be initiated for other species as they are added to the Service's list of endangered and threatened species.
4. The NPS should continue existing programs initiated for the protection of endangered and threatened species and their habitats throughout the area under its jurisdiction. The agency should adopt or maintain an adaptive management approach to the lands and resources they manage along the Natchez Trace Parkway. This will allow for changes to be made as new species are listed or as new information becomes available concerning species already on the Service's list.
5. The NPS should begin outreach programs or continue existing outreach programs to educate the public about the importance of, and protection and recovery of, endangered and threatened species in the Cypress Creek watershed, as well as, other watersheds intersected by the Natchez Trace Parkway. These programs should be presented or distributed to schools, civic groups, and local governments in these watersheds.
6. The NPS should continue to work closely with personnel from the Service, state fish and wildlife agencies, and other conservation organizations to ensure that operation and maintenance activities along the Natchez Trace Parkway is conducted in a way that will protect terrestrial and aquatic species and their habitats in the watersheds intersected by the Parkway.

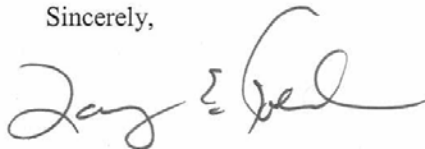
In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, re-initiation of formal consultation is required where discretionary FHWA involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

For this biological opinion, incidental take would be exceeded when the take exceeds one slackwater darter or when 340 linear feet in length by 140 linear feet in width of Lindsey Creek's habitat (in the vicinity of the proposed bridge site) is physically disturbed, which is what has been exempted from the prohibitions of section 9. The Service appreciates the cooperation of the FHWA and NPS during this consultation. We would like to continue working with both agencies and your staff on this project. If you have any questions or need additional information, please contact Mr. Rob Hurt, of my staff, at (256) 353-7243, ext. 29.

Sincerely,



Larry E. Goldman
Field Supervisor

cc:

Mr. Bob Felker, NPS
Mr. Daniel Drennen, USFWS, Jackson, MS
Mr. Joe Johnston, USFWS, Atlanta, GA
Mr. Dave Felder, USFWS, Jackson, MS
Dr. Lee Barclay, USFWS, Cookeville, TN
Mr. Rob Hurt, USFWS, Decatur, AL

LITERATURE CITED

- Boschung, Herbert. 1976. An Evaluation of the Slackwater Darter, *Etheostoma boschungi*, Relative to Its Range, Critical Habitat, and Reproductive Habitat in the Cypress Creek Watershed and Adjacent Stream Systems. U.S.D.A. Soil Conservation Service, Auburn, Alabama.
- Dial Cordy and Associates, Inc. 2004. Final Biological Assessment – Natchez Trace Parkway Bridge Replacements, Project NATR 1J15, 2A15; Wayne County, TN and Lauderdale County, AL. Prepared for: Federal Highway Administration, Eastern Federal Lands Highway Division. Jacksonville, Florida.
- Federal Register. Vol. 42, No. 175. pp. 47840-47845. September 9, 1977.
- McGregor, Stuart W. and Thomas E. Shepard. 1995. Investigations of Slackwater Darter, *Etheostoma boschungi*, Populations, 1992-1994. Geological Survey of Alabama, Tuscaloosa, Alabama.
- U.S. Fish and Wildlife Service. 1991. Endangered and Threatened Species of the Southeastern United States (The Red Book). Atlanta, Georgia.
- U.S. Fish and Wildlife Service. 1984. Slackwater Darter Recovery Plan. Atlanta, Georgia.
- Wall, Benjamin R. and J.S. Williams. 1974. *Etheostoma boschungi*, A New Percid Fish From the Tennessee River Drainage in Northern Alabama and Western Tennessee. Tulane Stud. Zool. And Bot. 18(4): 172-182.



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Natchez Trace Parkway
2680 Natchez Trace Parkway
Tupelo, Mississippi 38804

A2623

JUN 12 2003

Ms. Brigitte A. Azran
Environmental Compliance Engineer
Federal Highway Administration
Eastern Federal Lands Highway Division
21400 Ridgetop Circle
Sterling, Virginia 20166

Dear Ms. Azran:

Enclosed is a copy of a letter to the Tennessee State Historic Preservation Office (SHPO) requesting comments regarding the Tennessee Route 13 Bridge rehabilitation project, along with a copy of their reply. Also enclosed are letters to the Alabama State Historic Preservation Office requesting comments on the Threet Creek, Lindsay and County Road Bridge rehabilitation projects. The Alabama SHPO provided no comments on the projects.

Should you require additional information please feel free to contact Cultural Resource Specialist Christina E. Miller at (662) 680-4004.

Sincerely,

Wendell A. Simpson
Superintendent

Enclosure

D30 (NATR)
x1-J-2

April 20 2001

Mr. Milton H. Hamilton, Jr.
State Historic Preservation Officer
Department of Environment and Conservation
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr Hamilton:

The Tennessee Route 13 Bridge is scheduled for replacement under the next Natchez Trace Parkway bridge rehabilitation project. The existing bridge was constructed in 1954 in Wayne County, has undergone substantial deterioration, and is in poor condition. The design of the new bridge will be similar to other bridges constructed during the 1950s along the Parkway.

For your information, we have enclosed a copy of the inspection report and the preliminary layout for the new bridge. Please review this information and send any comments you may have to this office by May 14, 2001.

Should you have any questions, please feel free to contact Cultural Resource Specialist Christina Miller at (662) 680-4004.

Sincerely,

/s/ Danny Sims

For Wendell A. Simpson
Superintendent

Enclosures

RM/Drafts/Misc-2001/TN Route 13 Bridge
CEMiller:cdm:4/18/01
bcc: Central
Read
RM
Cultural Resource Specialist

April 25, 2001



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

<input checked="" type="checkbox"/>	SUPERINTENDENT	
<input checked="" type="checkbox"/>	ADMINISTRATION	4/30
<input type="checkbox"/>	MAINTENANCE	
<input type="checkbox"/>	RANGER ACTIVITIES	
<input checked="" type="checkbox"/>	RESOURCE MANAGEMENT	5/1
<input type="checkbox"/>	MANAGEMENT ANALYST	
<input type="checkbox"/>	DSC	
<input checked="" type="checkbox"/>	CARIS	
ACTION BY:		

Mr. Wendell A. Simpson
Natchez Trace Parkway
2680 Natchez Trace Parkway
Tupelo, Mississippi 38801

RE: NPS, TR-13 BRIDGE REPLACEMENT, UNINCORPORATED, WAYNE COUNTY

Dear Mr. Simpson:


Pursuant to your request received by this office on Tuesday, April 24, 2001, this office has reviewed documentation concerning the above-referenced undertaking. This review is a requirement of Section 106 of the National Historic Preservation Act for compliance by the participating federal agency or applicant for federal assistance. Procedures for implementing Section 106 of the Act are codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739)

Considering available information, we find that the project as currently proposed will NOT ADVERSELY AFFECT ANY PROPERTY THAT IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES. Therefore, this office has no objection to the implementation of this project. Please direct questions and comments to Joe Garrison (615)532-1559. You may find additional information concerning the Section 106 process and the Tennessee SHPO's documentation requirements at www.state.tn.us/environment/hist/sect106.htm. We appreciate your cooperation.

Sincerely

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

HLH/jyg



D30 (NATR)
x2-A

April 20, 2001

Dr. Lee H. Warner
State Historic Preservation Officer
Alabama Historical Commission
468 South Perry Street
Montgomery, Alabama 36130-0900

Dear Mr. Warner

The Threet Creek, Lindsay and County Road Bridges are scheduled for replacement under the next Natchez Trace Parkway bridge rehabilitation project. The Threet Creek and Lindsay bridges were constructed in 1956. The County Road Bridge was built in 1954. All three are located in Lauderdale County. The appearance between the existing bridges and the new bridges will be very similar.

For your information, we have enclosed copies of the inspection reports and the preliminary layouts for the new bridges. Please review this information and send any comments you may have to this office by May 14, 2001.

Should you have any questions, please feel free to contact Cultural Resource Specialist Christina Miller at (662) 680-4004.

Sincerely,

(S) Danny Sims

For Wendell A. Simpson
Superintendent

Enclosures

RM/Drafts/Misc-2001/Threet, Lindsay and County Road Bridges
CEMiller:cdm:4/18/01
bcc: Central
Read
RM
Cultural Resource Specialist

D30 (NATR)
x2-A

MAY 07 2003

May 6, 2003

Dr. Lee H. Warner
State Historic Preservation Officer
Alabama Historical Commission
468 South Perry Street
Montgomery, Alabama 36130-0900

Dear Dr. Warner:

This letter concerns the Lindsay Creek Bridge in Lauderdale County, Alabama, near Natchez Trace Parkway milepost 337. In April 2001, we initiated consultation with your office regarding plans to replace the bridge and your office approved the plan. Due to hydraulic concerns, further design changes are required. The bridge will be lengthened but the design will otherwise remain the same. For your review, we have enclosed the April 2000 plan that your office approved in April 2001 and the new April 2003 plan.

Should you have any questions, please feel free to contact Cultural Resource Specialist Christina Miller at (662) 680-4004

Sincerely,

/s/

~~E~~ Wendell A. Simpson
Superintendent

Enclosures

RM/Drafts/Corres-2003/Lindsay Creek Bridge
CEMiller:cdm:5/5/03
bcc: Central
Read
RM
Cultural Resource Specialist



U.S. Department
of Transportation

**Federal Highway
Administration**

Eastern Federal Lands
Highway Division

21400 Ridgetop Circle
Sterling, VA 20166-6511

Refer to: HFPP-15

Mr. Edward P. Wasserman
Tennessee Department of Transportation
James K. Polk Building
505 Deaderick Street
Suite 700
Nashville, TN 37243-0349

Subject: PRA-NATR 1J15, 2A15, Natchez Trace Parkway
Closure of Highway 13

Dear Mr. Wasserman:

In cooperation with the National Park Service, the Eastern Federal Lands Highway Division, of the Federal Highway Administration, is currently preparing an Environmental Assessment (EA) for the replacement of four bridges along the Natchez Trace Parkway. Three of these bridges are located in Lauderdale County, Alabama. The fourth bridge spans Highway 13 in Wayne County, Tennessee. This bridge, Structure 5570-017P, is owned and maintained by the National Park Service. This project has been designated Project PRA-NATR 1J15, 2A15.

Per previous discussion between Mr. Hardie Brooks of your office, and Mr. Kenneth Atkins, Federal Highway Administration Project Manager, we are sending you one copy of the Draft EA and relevant portions of the project plans for your review to determine if a public meeting is required for this project.

The project consists of replacing the bridges at the aforementioned locations due to structural deficiencies caused by reactive aggregates in the concrete. Both of the Build Alternatives we are evaluating would require temporary closures of Highway 13. In order to demolish the existing bridge, we estimate that Highway 13 needs to be closed for approximately 2 days. Also, as the result of changes in bridge design requirements since 1954, the vertical profile of Highway 13 would need to be lowered under both Build Alternatives to the minimum 16'-6" standard vertical clearance between the road and the bottom of the bridge superstructure provided in your previous letter of October 19, 2001. To accomplish this work, we estimate that Highway 13 would need to be closed for approximately 4 days during construction.

Closure of Highway 13 has been taken into account in our Draft EA. All traffic crossing under the Natchez Trace Parkway on Highway 13 will need to be diverted to alternate roads. Based on your 2003 Traffic Study, we believe that approximately 3,000 vehicles will need to be diverted daily.

The current preferred alternative, Build Alternative A, proposes to divert this traffic onto the Natchez Trace Parkway, using the Parkway Detour (Detour Road #1, Striklin Grocery Road, and Detour Road #2) detailed on Page 20 of the enclosed Draft EA. Highway 13 traffic would then be diverted along the Natchez Trace Parkway to the Collinwood Interchange with Railroad Bed – Iron City Road, and then along Railroad Bed – Iron City Road into Collinwood and the intersection with Highway 13.

Build Alternative B proposes a similar detour. Highway 13 traffic would be diverted onto the Natchez Trace Parkway using the Parkway Detour detailed on Pages 24 and 25 of the enclosed Draft EA. Highway 13 traffic would then be diverted along the Natchez Trace Parkway to the Collinwood Interchange with Railroad Bed – Iron City Road, and then along Railroad Bed – Iron City Road into Collinwood and the intersection with Highway 13.

Please refer to the enclosed Detour Plan and Pages 21 and 25 for further details about the proposed detours.

The only impacts we foresee from closing Highway 13 temporarily are stated on pages 53 to 54 and pages 58 to 61 in the enclosed Draft EA. They are summarized below:

Build Alternative A:

- 1) Temporary increase in traffic on Striklin Grocery Road from approximately 1,360 vehicles per day to 3,620 vehicles per day.
- 2) Temporary increase in traffic on the Natchez Trace Parkway from approximately 960 vehicles per day to 3,220 vehicles per day.
- 3) Temporary increase in traffic on Railroad Bed-Iron City Road from approximately 3,150 vehicles per day to 5,410 vehicles per day with possible congestion at the intersection with Highway 13 in Collinswood.
- 4) Temporary resultant increases in vehicle-related noise due to the increased traffic along these three roads.

Build Alternative B:

- 1) Temporary increase in traffic on the Natchez Trace Parkway from approximately 960 vehicles per day to 3,220 vehicles per day.
- 2) Temporary increase in traffic on Railroad Bed-Iron City Road from approximately 3,150 vehicles per day to 5,410 vehicles per day with possible congestion at the intersection with Highway 13 in Collinswood.
- 3) Temporary resultant increases in vehicle-related noise due to the increased traffic along these two roads.

We have enclosed a draft copy of the Draft EA for the referenced project and copies of the proposed detour for Tennessee Highway 13. This copy is solely a draft and is not for public distribution. The EA for Project PRA-NATR 1J15, 2A15 is expected to be released for public comment in September. Build Alternative A is anticipated to be identified as the preferred alternative because of safety, and adjacent residents concerns regarding the local detours.

After reviewing these documents, please provide any comments you may have regarding the level and timing of public notification required and if a full-fledged public meeting is requested for the portion of the project in Wayne County, Tennessee.

We are sending copies of this draft of the EA and the relevant portions of preliminary design plans under separate cover to Mr. Phillip Berry, Wayne County Roads Superintendent, and Mr. Kenneth Allamel, Lauderdale County Engineer, for their review and opinions if a public meeting is required.

Questions concerning this matter should be directed to Mr. Atkins, 703-404-6307, Mr. Robert Herrick, Engineering Student Trainee (Environmental), at 571-434-1592, or Ms. Brigitte Azran, Environmental Compliance Specialist, at 703-404-6283.

Sincerely yours,

/s/ Brigitte A. Azran

for

Alan T. Teikari

Planning and Programming Engineer

Enclosure

cc:

Mr. Wendell Simpson, Superintendent, Natchez Trace Parkway, National Park Service,
Tupelo, MS

Mr. Kent Cochran, FLHP Coordinator, Southeast Region, National Park Service, Atlanta, GA

Mr. Leon Clifford, Project Manager, Denver Service Center, National Park Service, Denver, CO

Mr. Robert Felker, Field Representative, Denver Service Center, National Park Service,
Tupelo, MS



U.S. Department
of Transportation
**Federal Highway
Administration**

Eastern Federal Lands
Highway Division

21400 Ridgetop Circle
Sterling, VA 20166-6511

Refer to: HFPP-15

Mr. Phillip Berry
Road Superintendent
Wayne County
P.O. Box 472
Waynesboro, TN 38485

Subject: PRA-NATR 1J15, 2A15, Natchez Trace Parkway
Closure of Highway 13

Dear Mr. Berry:

In cooperation with the National Park Service, the Eastern Federal Lands Highway Division, of the Federal Highway Administration, is currently preparing an Environmental Assessment (EA) for the replacement of four bridges along the Natchez Trace Parkway. Three of these bridges are located in Lauderdale County, Alabama. The fourth bridge spans Highway 13 in Wayne County, Tennessee. This bridge, Structure 5570-017P, is owned and maintained by the National Park Service. This project has been designated Project PRA-NATR 1J15, 2A15.

Per previous discussion between Mr. Jeff Minatra of your office, and Mr. Kenneth Atkins, Federal Highway Administration Project Manager, we are sending you one copy of the Draft EA and relevant portions of the project plans for your review to determine if a public meeting is required for this project.

The project consists of replacing the bridges at the aforementioned locations due to structural deficiencies caused by reactive aggregates in the concrete. Both of the Build Alternatives we are evaluating would require temporary closures of Highway 13. In order to demolish the existing bridge, we estimate that Highway 13 needs to be closed for approximately 2 days. Also, as the result of changes in bridge design requirements since 1954, the vertical profile of Highway 13 would need to be lowered under both Build Alternatives to the minimum 16'-6" standard vertical clearance between the road and the bottom of the bridge superstructure required by the Tennessee Department of Transportation. To accomplish this work, we estimate that Highway 13 would need to be closed for approximately 4 days during construction.

Closure of Highway 13 has been taken into account in our Draft EA. All traffic crossing under the Natchez Trace Parkway on Highway 13 will need to be diverted to alternate roads. Based on your 2003 Traffic Study, we believe that approximately 3,000 vehicles will need to be diverted daily.

The current preferred alternative, Build Alternative A, proposes to divert this traffic onto the Natchez Trace Parkway, using the Parkway Detour (Detour Road #1, Striklin Grocery Road, and Detour Road #2) detailed on Page 20 of the enclosed Draft EA. Highway 13 traffic would then be diverted along the Natchez Trace Parkway to the Collinwood Interchange with Railroad Bed – Iron City Road, and then along Railroad Bed – Iron City Road into Collinwood and the intersection with Highway 13.

Build Alternative B proposes a similar detour. Highway 13 traffic would be diverted onto the Natchez Trace Parkway using the Parkway Detour detailed on Pages 24 and 25 of the enclosed Draft EA. Highway 13 traffic would then be diverted along the Natchez Trace Parkway to the Collinwood Interchange with Railroad Bed – Iron City Road, and then along Railroad Bed – Iron City Road into Collinwood and the intersection with Highway 13.

Please refer to the enclosed Detour Plan and Pages 21 and 25 for further details about the proposed detours.

The only impacts we foresee from closing Highway 13 temporarily are stated on pages 53 to 54 and pages 58 to 61 in the enclosed Draft EA. They are summarized below:

Build Alternative A:

- 1) Temporary increase in traffic on Striklin Grocery Road from approximately 1,360 vehicles per day to 3,620 vehicles per day.
- 2) Temporary increase in traffic on the Natchez Trace Parkway from approximately 960 vehicles per day to 3,220 vehicles per day.
- 3) Temporary increase in traffic on Railroad Bed-Iron City Road from approximately 3,150 vehicles per day to 5,410 vehicles per day with possible congestion at the intersection with Highway 13 in Collinswood.
- 4) Temporary resultant increases in vehicle-related noise due to the increased traffic along these three roads.

Build Alternative B:

- 1) Temporary increase in traffic on the Natchez Trace Parkway from approximately 960 vehicles per day to 3,220 vehicles per day.
- 2) Temporary increase in traffic on Railroad Bed-Iron City Road from approximately 3,150 vehicles per day to 5,410 vehicles per day with possible congestion at the intersection with Highway 13 in Collinswood.
- 3) Temporary resultant increases in vehicle-related noise due to the increased traffic along these two roads.

We have enclosed a draft copy of the Draft EA for the referenced project and copies of the proposed detour for Tennessee Highway 13. This copy is solely a draft and is not for public distribution. The EA for Project PRA-NATR 1J15, 2A15 is expected to be released for public comment in September. Build Alternative A is anticipated to be identified as the preferred alternative because of safety, and adjacent residents concerns regarding the local detours.

After reviewing these documents, please provide any comments you may have regarding the level and timing of public notification required and if a full-fledged public meeting is requested for the portion of the project in Wayne County, Tennessee.

We also are sending copies of this draft of the EA and the relevant portions of preliminary design plans under separate cover to Mr. Edward P. Wasserman, Civil Engineering Director – Structures at the Tennessee Department of Transportation, and Mr. Kenneth Allamel, Lauderdale County Engineer, for their review and opinions if a public meeting is required.

Questions concerning this matter should be directed to Mr. Atkins, at 703-404-6307, Mr. Robert Herrick, Engineering Student Trainee (Environmental), at 571-434-1592, or Ms. Brigitte Azran, Environmental Compliance Specialist, at 703-404-6283.

Sincerely yours,

/s/ Brigitte A. Azran

for

Alan T. Teikari

Planning and Programming Engineer

Enclosure

cc:

Mr. Wendell Simpson, Superintendent, Natchez Trace Parkway, National Park Service,
Tupelo, MS

Mr. Kent Cochran, FLHP Coordinator, Southeast Region, National Park Service, Atlanta, GA

Mr. Leon Clifford, Project Manager, Denver Service Center, National Park Service, Denver, CO

Mr. Robert Felker, Field Representative, Denver Service Center, National Park Service,
Tupelo, MS



U.S. Department
of Transportation
**Federal Highway
Administration**

Eastern Federal Lands
Highway Division

21400 Ridgetop Circle
Sterling, VA 20166-6511

Refer to: HFPP-15

Mr. Kenneth Allamel
County Engineer
Lauderdale County
P.O. Box 1059
Florence, AL 35631

Subject: PRA-NATR 1J15, 2A15, Natchez Trace Parkway
Closure of County Road 85

Dear Mr. Allamel:

In cooperation with the National Park Service, the Eastern Federal Lands Highway Division, of the Federal Highway Administration, is currently preparing an Environmental Assessment (EA) for the replacement of four bridges along the Natchez Trace Parkway. One of these bridges is located in Wayne County, Tennessee. The remaining three bridges – those over Lindsey Creek, Threet Creek, and County Road 85 – are located in Lauderdale County, Alabama. These bridges, Structures 5570-020P (County Road 85), 5570-0021P (Threet Creek), and 5570-0022P (Lindsey Creek), are owned and maintained by the National Park Service. This project has been designated Project PRA-NATR 1J15, 2A15.

Per previous discussion between your office and Mr. Kenneth Atkins, Federal Highway Administration Project Manager, we are sending you one copy of the Draft EA and relevant portions of the project plans for your review to determine if a public meeting is required for this project.

The project consists of replacing the bridges at the aforementioned locations due to structural deficiencies caused by reactive aggregates in the concrete. Both of the Build Alternatives we are evaluating would require temporary closures of County Road 85. We have determined that County Road 85 would need to be closed in order to demolish the existing Natchez Trace Parkway Bridge. Also, as the result of changes in bridge design requirements since 1954, the vertical profile of County Road 85 would need to be lowered under both Build Alternatives to meet the minimum standard vertical clearance between the road and the bottom of the bridge superstructure. To accomplish this work, we estimate that County Road 85 would need to be closed for approximately 1 month during construction.

Closure of County Road 85 has been taken into account in our Draft EA. All traffic crossing under the Natchez Trace Parkway on County Road 85 will need to be diverted to alternate roads. Based on estimates from your office, we believe that approximately 150 vehicles will need to be diverted daily.

Both of the proposed Build Alternatives would detour County Road 85 traffic along Alabama Highway 157, County Road 10, and County Road 5. Please refer to the enclosed Detour Plan and Pages 18, 19, 22, and 23 of the EA for further details about the proposed detours.

We have enclosed a draft copy of the Draft EA for the referenced project and copies of the proposed detour for County Road 85. This copy is solely a draft and is not for public distribution. The EA for Project PRA-NATR 1J15, 2A15 is expected to be released for public comment in September. Build Alternative A is anticipated to be identified as the preferred alternative because of safety, and adjacent residents concerns regarding the local detours.

After reviewing these documents, please provide any comments you may have regarding the level and timing of public notification required and if a full-fledged public meeting is requested for the portion of the project in Lauderdale County, Alabama.

We are also sending copies of this draft of the EA and the relevant portions of preliminary design plans under separate cover to Mr. Phillip Berry, Wayne County Roads Superintendent, and Mr. Edward P. Wasserman, Civil Engineering Director – Structures at the Tennessee Department of Transportation, for their review and opinions if a public meeting is required.

Questions concerning this matter should be directed to Mr. Atkins, at 703-404-6307, Mr. Robert Herrick, Engineering Student Trainee (Environmental), at 571-434-1592, or Ms. Brigitte Azran, Environmental Compliance Specialist, at 703-404-6283.

Sincerely yours,

/s/ Brigitte A. Azran

for

Alan T. Teikari

Planning and Programming Engineer

Enclosure

cc:

Mr. Wendell Simpson, Superintendent, Natchez Trace Parkway, National Park Service,
Tupelo, MS

Mr. Kent Cochran, FLHP Coordinator, Southeast Region, National Park Service, Atlanta, GA

Mr. Leon Clifford, Project Manager, Denver Service Center, National Park Service, Denver, CO

Mr. Robert Felker, Field Representative, Denver Service Center, National Park Service,
Tupelo, MS